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ABSTRACT

This document consists of five issues of the "Home School Researcher," a quarterly newsletter dedicated to research on instruction in the home. Volume 4, number 3 reports findings of a comparative study of the reasoning abilities of home-educated children. Also included are profiles of four categories of home schoolers: new age, religious, socio-relational, and academic. Volume 4, number 4, provides an overview of home schooling in Alabama and investigates the extent to which state statutes regulate home school curricula. Volume 5, number 1, reports findings on the effect of home schooling on the leadership skills of home-schooled students. Volume 5, number 2 covers a study of the suitability of South Carolina's education entrance examination for use with home schooling instructors. Also discussed is a study of reasons for selecting home schooling in the Chattanooga, Tennessee vicinity. Volume 5, number 3 reports findings of studies on new age families who educate their families at home. The relations of public, private, and home school students' attitudes concerning science learning are also considered. An index to the first four volumes of the newsletter and references to related research and bibliographic citations are included. (RH)

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Home School Researcher
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REASONING ABILITIES OF HOME-EDUCATED CHILDREN

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Much of the literature on home education centers either on reasons why parents should choose this form of education over the conventional classroom or the resource materials available to parents of home educated children (Pitman, 1986; Lines, 1987). However, little has been written about the children themselves -- specifically about the intellectual development of home-taught children. An exploratory investigation was designed and the following question posed: How is the development of cognitive intellect affected by non-conventional schooling with children aged 6 to 13?

Four years ago a unique concept in schooling was proposed whereby home instruction and school instruction was integrated. Forming a partnership with the parents of the home educated children, the Pathways School emerged with the following characteristics:

1. Classes met for two days per week.
2. Each class period was 2 1/2 hours in duration.
3. Instruction was in math and science.
4. All other instruction was provided by the parents at home.

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5. Children's ages ranged from 6 to 13 years.

The central purpose of this school was the promotion of maximum intellectual growth. Intellectual growth for this experiment was operationally defined as the development of cognition from preoperational thought through concrete and formal operational thought (Inhelder and Piaget, 1958). In a study of intellectual growth of students in small rural schools, Simpson and Marek (1958) described concrete operational thinking as students who can reason logically but do not extend this reasoning beyond the perception of direct or concrete experiences, events and/or objects. Formal thinkers can reason beyond perception, but stay in the bounds of logic, and use postulatory-deductive systems.

The Pathways School incorporated a teaching procedure which was developed from this model of intellectual development. This teaching procedure, which engages children in the active exercise of the rational powers of thinking, is called the learning cycle (Karplus and Thier, 1967). The student first explores the concept to be learned using materials and basic directions provided by the instructor. That learning-cycle phase is called **exploration**. Next, the students, under the guidance of the instructor, combine their ideas, data and observations which the exploration produced and identify the concept which is inherent in the data. That learning-cycle phase is referred to as **conceptual invention**. During the conceptual invention phase the language of the concept is introduced. The students next use the newly invented concept in several different ways. They might engage in additional activities, work problems, answer questions, pursue individual investigations and/or read about the uses and further descriptions of the concept. This phase leads the students to expand the concept--or idea--they have just met and is called the **expansion of the idea**. It has been shown that with such student-centered experiences children move through each level of intellectual development at a faster rate than children exposed to expositional instruction (Renner and Marek, 1988).

Pathways School was founded upon the Piagetian Model. Therefore, of great concern were two major questions about the intellectual development of it's students:

1) How do the children in attendance at The Pathways School compare with other home-taught children with regard to intellectual development?
2) How do these two groups compare with their age-mates, who are in attendance in conventional classrooms, with regard to intellectual development?

Method

The experimental group was composed of 19 students from the Pathways School, and therefore was an intact group. The 11

students from the control group were volunteers. Selection from the latter group was dependent upon a corresponding age/sex match with the experimental group. After pretest analysis, it was also learned that the two groups were matched on intellectual development.

Data were obtained from the described sample of 30 students who ranged in age from 72 to 131 months. Pretests and posttests of nine Piagetian tasks (Inhelder & Piaget, 1958) which were developed to measure reasoning abilities were administered to each child. This design allowed for comparisons in reasoning scores. Individual clinical interviews of the 30 students included: 1) Conservation of Number, Solid Amount, Liquid Amount, Length, Weight, Area and Volume; 2) Equilibrium in a Balance; and, 3) Combinations of Colored Beads. Student's responses to these tasks demonstrated their: 1) conservation reasoning, 2) ability to do ratios and 3) combinational logic, respectively. This combination of tasks provided us with a representative, cross-section of reasoning abilities and therefore each student's developmental level. A complete explanation and discussion of these tasks can be found in The Learning Cycle and Elementary School Science Teaching (Renner and Marek, 1988). Each task was scored in the standard manner (Renner and Marek, 1988) and responses were classified as pre-concrete (I); early concrete (IIA); concrete (IIB) early formal (IIIA); or formal (IIIB). A composite score for each child's pretest determined his/her intellectual developmental level as either concrete operational, transitional, or formal operational. Because of the small sample sizes in this study some of the findings were collapsed into two categories: concrete and post-concrete (transitional and formal).

Following the pretests each group of students received nine months of instruction. The experimental group (Pathways School students) received intensive experiences using the learning cycle procedures and materials. The comparison group (parents without formal knowledge or education of the Piagetian Model or the learning cycle) was allowed to create a learning environment free from specified controls. In other words, parents within this group independently selected curricula materials and provided learning activities for their children according to their own choices (which may or may not have included science or math).

No attempt was made to regulate or specify how the learning environment was to be structured in the comparison group. The comparison and experimental groups were then posttested in individual "clinical" interviews with the same set of tasks used for the pretests. Again a composite score was used to assess developmental level.

Findings and Implications

Although the research design was sound and appropriate, we

discovered that the students in the two groups were experiencing similar treatments. The students in the experimental group received instruction utilizing pre-written activities which promoted intellectual development and the students in the comparison group had the same type of experiences even though the activities were not pre-written learning cycles. The latter occurred since parents 1) redesigned traditional curriculum, 2) provided extensive field trip type learning experiences, and/or 3) allowed their children to explore their environment during extended free time. Obviously all of these children were given ample opportunities for intellectual growth.

Approximately half of each group began the investigation with a Piagetian classification of concrete operation. The experimental group (mean age=104 months) was composed of 10 concrete operational and 9 post concrete operational students. The comparison group (mean age=107 months) was proportionally similar with 6 concrete operational and 5 post concrete operational students. No statistical differences were found between the two groups regarding pretest means of either age or developmental level. After the nine months of "treatment", pre/post test gains on intellectual development were measured with a t-test (Hays, 1973). The gain comparing the two groups was not statistically different (see Table 1).

TABLE I. INTELLECTUAL DEVELOPMENT OF TWO GROUPS OF HOME SCHOOLED CHILDREN

PRE-TEST			POST-TEST	
COMPARISON	EXPERIMENTAL	PIAGETIAN STAGE	COMPARISON	EXPERIMENTAL
(6) 55%	(10) 53%	CONCRETE	(1) 9%	(5) 26%
(5) 45%	(4) 21%	TRANSITIONAL	(7) 64%	(6) 32%
(0) 0%	(5) 26%	FORMAL	(3) 27%	(8) 42%

Since group-gains for each group on intellectual development were parallel, the researchers wanted to know how these two groups, taken together, compared with Piaget's original findings as well as current national averages. Piaget originally said that children began to move into the concrete operational stage between 6 and 7 years of age. he went on to say that children began to move out of this stage "...at about 11 or 12...", (Piaget, 1963). In 1972, however, Piaget wrote an article in which he said that the students

used in the original investigation were taken from "...the better schools in Geneva ... a somewhat privileged population," (Piaget, 1972). He suggested that the point at which the exit from concrete thought begins is "between 15 and 20 years and not 11 and 15 years."

The data from this study seem to suggest that students taught at home move into formal thought between the ages of 10 to 11. These particular samples closely parallel Piaget's original "privileged" group. As can be seen from Figure 1, both Piaget's "privileged" group and the home schooled groups far surpass the "average child," or what is referred to in the literature as national averages.

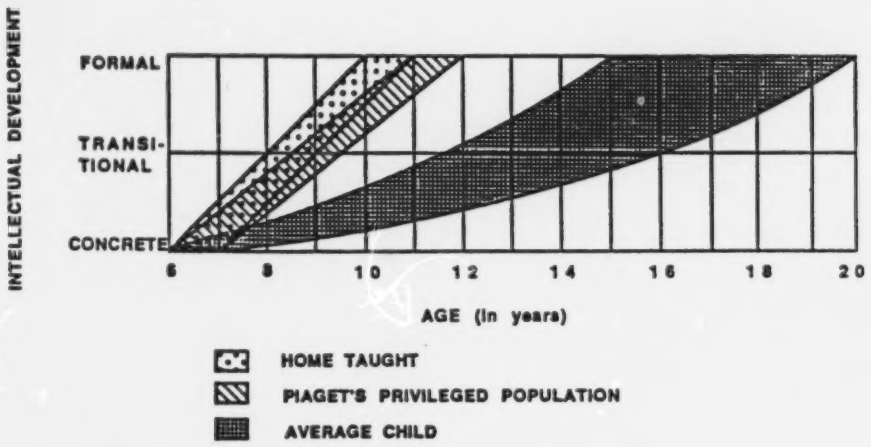

FIGURE 1. INTELLECTUAL DEVELOPMENT

Interpretations of these comparisons are quite provocative: What does this say about: Conventional schools? Home schooling? The students in each school environment?

The data from this study suggest that the parents of the home educated students gave their children the right kinds of experiences to foster intellectual development. In other words, the parents in this sample, provided learning experiences similar to those suggested by Piaget as critical to intellectual development. From this study one could infer that the comparison group children had similar experiences to that of the experimental group even though the parents in the comparison group had no formal education in the Piagetian Model or its inherent teaching strategy -- the learning cycle. Furthermore, this sample of home taught children (comparison and experimental groups) was in a learning

environment that caused intellectual growth that actually exceeded Piaget's original "privileged population."

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WHY HOME SCHOOLING?
A PROFILE OF FOUR CATEGORIES OF HOME SCHOOLERS

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In the March 1988 issue of the Home School Researcher (Mayberry, 1988), I discussed the findings of the 1987-1988 Oregon Home School Survey. In that article I suggested that home schoolers are not a monolithic group, rather they are a diverse group that come to the decision to home school for a variety of reasons. Four general categories of home schoolers were identified: religious, academic, socio-relational, and New Age.[1]

The 1987-1988 Oregon Home School Survey was one aspect of a larger home school project. In addition to gathering survey data on home schoolers, I conducted in-depth interviews with twelve families to learn something about the lived experiences and meaning systems that inform the values and beliefs of those who teach their children at home. In order to select the families I interviewed, a dimensional sampling process was used. Dimensional sampling is an approach suitable for studying a small number of cases while still capturing the most important dimensions along which a group varies (Arnold, 1970). The criterion used to select a family was its ability to represent not only the common properties within the dimension, but its diversity as well. Thus, the combination of families selected captured the similarities and distinctions of each home school category.

The results of the interview analysis are used in this article to illustrate the fundamental similarities and differences among home school families. The strength of such an analysis is its ability to allow home schoolers to speak about themselves and their motivations for home schooling through their own voice.

Religious and New Age Home Schoolers

Religious and New Age families home school for ideological reasons. Home schooling makes sense because it provides them a way to reproduce their way of life by controlling the content of their children's education. Both groups are ideologically

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[1]. Although I will discuss these four categories as separate entities, it should be understood that the reasons a family gives for home schooling may be representative of more than one category. The assignment of a family to a category was based upon primary reasons expressed by the family.

committed to home schooling, yet each have fundamentally different world views.

Religious home schoolers are strongly committed to Judeo-Christian principles and believe that, as parents, they are responsible to cultivate orthodox Christian values in their children. A religious home-based education is seen as not only a God-give responsibility, but a necessity if Christian morality is to be restored and their way of life preserved. One Christian father summed up the feelings of many religious home schoolers with the following comment:

> We are a very typical home school family in this one regard: We believe that we are commanded by God, and responsible to God, to bring up our children according to His Word... The responsibility of the father to train and direct his family cannot be delegated to the school. It is funny; if we were to ask someone, "Whose responsibility is it to feed your children?" the response would surely be, "Why, my responsibility, of course." If we were to ask, "Whose responsibility is it to clothe your children? Who is responsible to love them, to make sure that they have all of their physical needs met?," there would be no hesitation in replying, "These are my children. I am responsible for their needs." And yet, so many people, when asked, "Whose responsibility is it to educate your children?" reply, "The state's" or "The school's" without a second thought. We see the responsibility to educate our children as being as essential as feeding them, clothing them, and providing for them.... Because we love our children, and because we feel that it is the command of God, we home school them.

Religious home schoolers reject the secular orientation of public schools; evolution, sex education, and moral relativism are commonly opposed curricula. Home schooling is viewed both as a means to protect their children from these unwanted secular ideologies and as a means to insure that their children are raised with a belief in the authority of the scriptures. Consider the following comments:

> If you look in your high school textbooks, you'll see that evolution is caused by micromutations over millions of years. That's an absolute bold-faced lie, a disproved scientific supposition. Where's the proof, where's the truth? Since there is no God we came from nothing... that develops into communism; for communists, evolution is the scientific underpinnings for communism.

> Recently, in the state of Washington, one mother went ot court on a case where the school required her daughter to read a book that attacked and undermined her Christian faith and even contained blasphemous statements about

> Jesus Christ Himself. Call me a book burner, call me closed-minded, call me a censor, but call me concerned. I wouldn't have that trash in the hands of my child anymore than I would furnish my child with pornography.
>
> I still like ideas to be able to be expressed freely. That's why we don't like the public school system, we don't feel that there is the freedom. What it's free from is Christianity, that's what it's free from.
>
> They have taken Christ out of Christmas and now it's winter break; they have taken the resurrection out of Easter and now it's Spring break; but they are determined to leave witches and Satan in Halloween.

New Age families also have strong ideological commitments that guide them into home schooling. Home schooling makes sense to New Age families because it provides them the opportunity to give their children an educational experience which reflects the philosophy of the New Age. Like religious home schoolers, they see home schooling as the vehicle to reinforce a way of life and a system of beliefs. Their beliefs, however, are based upon metaphysical philosophies that reject the supremacy of God and uphold the supremacy of humanity; the ultimate source of authority lies not with God but within each individual. New Agers' commitment to the human embodiment of spirituality is reflected in the following comments:

> Heaven is recognition of oneness with all that is; Hell is feeling separate and alone; Eternal life is innate; Jesus, Buddha, Gandhi, and Einstein only showed us how to make life more enjoyable, how to escape from the "Hell" of our own making.
>
> We create heaven and hell daily by our attitude; what ew see is what we get.
>
> I believe that heaven and hell are within each of us, sa is God also.

New Age parents oppose public schools because they do not nurture the values of New Age adherents: the mutual awareness of oneness and interrelatedness of all reality. Moreover, New Age families claim control of their children's education to restore family unity and lay the foundations necessary for the ascent into the New Age. As several New Agers explained:

> I doubt if there's a school espousing the belief systems of oneness with nature, Native American traditional beliefs, Sufism, Buddhism, etc.
>
> We teach reincarnation, the Law of Karma, and the

interrelatedness and interdependency of all life forms upon each other to insure mutual quality survival, including that of this planet earth.

We believe that the main task of education for the New Age is to assist a child in developing the attitude needed for the bridge between the personality and the soul; we believe that parents who are bonded to and the primary custodian of the child are the best people to understand the individual needs of the beings in their care; the parents are the optimal co-creators of the life experience.

Home schooling allows us to actualize our full potentialities as much as possible, to address social consciousness, quality of life for everyone, ecological concerns, the seeming decline of individual, personally motivated values and ethics, the economy, and the potential for war.

Socio-relational and Academic Home Schoolers

Socio-relational home schoolers are less concerned with the ideological practices of public schools and more concerned with the pedagogical environment in public schools (Van Galen, 1986). Their commitment to home schooling lies in the social and developmental benefits it offers. Home schooling makes sense to socio-relational families because it promotes family unity, allows the parent-child relationship to be extended as long as possible, and protects children from possible negative peer influences and damaging socialization experiences. These goals are best obtained, they argue, by families who take primary responsibility for their children's education. The following comments illustrate these themes:

I'm really committed to protecting my children, not letting them grow up too fast; lost of nurturing and hugging. It's just basically instincts...as a mother I just felt I wanted to cuddle...things I really couldn't find the roots of...it just felt natural, felt right.

We feel that, in general, children are being pushed out too soon into the world and want to nurture our children and allow them to bloom at their own rate.

I would not send a child to middle school here or anywhere. They are too vulnerable to the peer pressure at that age. The school could change but the kids won't. Children become, by home schooling, more confident and happy about themselves--not as much peer group pressure.

> At this moment, if I had to give up home schooling, I would feel some sense of abandonment of my kid. I would be turning over their mind and their spirit and their souls to a state institution.

Academic home schoolers are most concerned with their children's academic success and, like socio-relational families, choose home schooling for pedagogical reasons. Their concerns, however, are over the academic standards and educational programs of public schools (or lack of), rather than their educational environment. Academic home schoolers believe that parents, not public schools, are best equipped to nurture children's academic potentials and to provide for their special academic needs.

> I feel I can do a better job academically than either private or public school. Neither are adequate for what I want for my children.

> Josh was able to move faster than the school was set up to move. Thus, he was bored and becoming decreasingly motivated...We are better able to supply the personal, individual input he needs.

> The nurturing that takes place within the home in academic areas could never be provided by an institution with nearly the same [nurturing] quality.

Their commitment to home schooling stems from their belief that one-on-one instruction allows children to learn at their own pace and to develop their individual styles of learning. Both factors, they argue, motivate children toward high levels of academic achievement. Two home school mothers expressed their beliefs this way:

> Children are individuals and parents should know what their child is capable of.... Schools should try harder to teach the children individually and not expect everyone to be the same. I wanted my child to have more one-on-one training.

> With home schooling they're not pressured into doing an assignment.... If I see they are off on a tangent, or I see them interested in a concept, they are free to pursue that in as much depth as they want...they're free to explore whatever areas. They're able to apply their book learning and integrate the subjects; history gets into economics, religion, and how that relates to the situation now.

Their rejection of public school is often shaped by their own public school experiences, or experiences they have had while their

children have been enrolled in public schools (Knowles, 1988). For the academic home schooler, then, placing educational duties in the home not only provides educational benefits to their children but solves current educational problems their children may be confronting and protects them against the development of future ones. One mother's comments illustrate this point:

> Both of us were left with scars from our public education. We want our children to love learning and be aware of differences. I am grateful it is legal to home teach. After raising 6 other children and suffering over their experiences, I can now take back educational responsibility and not leave it to others.

Summary

Although families begin home schooling for different reasons, several common themes unify their action: their desire for family unity, their desire to protect or isolate their children from unwanted ideologies or influences, and their desire to either reclaim or not relinquish control of their children's education to public institutions. Each theme, I propose, is relevant for understanding why home schooling is the choice of a growing number of families in contemporary American society.

Similar movements have been analyzed as examples of educational conflict (Reese, 1985) and life-style politics (Lorentzen 1980; Page & Clelland 1978), as well as responses to modernity and secularization (Hunter 1987; Shupe & Stacey, 1983). These analyses suggest that the impetus for such movements may well be tied to the effects of contemporary culture on the belief systems people who join the movements are trying to revitalize and protect. The findings of this study suggest that home schoolers may be one of the most recent social vanguards willing to take significant steps to protect their children from the effects of modernization and secularization on the American family, public education, and the moral fabric of American society.

Researchers studying new religious movements suggest that as social institutions become increasingly differentiated, rationalized, and secularized, humans take an active role in sustaining a stable world view and maintaining the symbolic universes that convey meaning and give order to reality. Often the concern is with protecting and sustaining world views and life styles that embody sacred elements (see Hammond, 1985). The activity of home schooling, I propose, is symbolic of a concern over an increasingly differentiated, rationalized, and secularized social system. Home schooling provides families with the means not only to protect their children from the ideologies, values, and practices of public schools, but to actively preserve world views and meaning systems that offer stable guidelines to live by.

Several dimensions of this research illustrate this point. As noted previously, home schooling allows families to restore family unity, to control their children's education, and to protect their children from the ideologies and values of public schools. The analysis of the survey data (Mayberry, 1988) also demonstrated that most home schoolers, in addition to their rejection of public schools, lack confidence in mainstream social institutions and public officials, while maintaining a peripheral relationship to mainstream institutions. Moreover, they have a high degree of religious or spiritual commitment and are actively involved in religious and communal activities in small, peripheral organizations. Finally, home schoolers overwhelmingly feel that contemporary society is in a period of moral decay. These findings seem to suggest that the choice of home schooling reflects not only a resistance to public schools but a disillusionment with the contemporary social order.

More specifically, religious home schoolers voice their concern over the shift in the locus of authority in contemporary culture away from the absolute authority of God. New Agers desire a shift in consciousness from rational and linear modes of thinking to an apprehension of the unity of all living forms as well as the spiritual unity between humanity, nature, and God. Socio-relational home schoolers are dissatisfied with the quality of both family relationships and relationships nurtured in public schools; they seek a lifestyle that will allow them to protect and nurture their children's social and moral development. Although these concerns represent different world views and meaning systems, what virtually all have in common is a discontentment with modern culture. Home-based education provides an activity directly oriented toward religious and spiritual renewal and toward family integration and control; it represents a commitment to regaining control over one aspect of life that is fundamental to the maintenance of world views--the education of children. In this sense, home schoolers are rational individuals seeking to achieve a rational goal. They are not irrational individuals responding to economic or status deprivation, but rather individuals attempting to sustain a way of life that protects and revitalizes a stable set of meanings. Home schooling provides such a structure.

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ANNOUNCEMENTS

Submission for Publication in Home School Researcher (HSR)

The HSR welcomes you to submit articles relevant to its purposes (which are stated below). Generally, they should be typed, double-spaced, and 6 to 12 pages in length. If possible, please follow the guidelines in Publication manual of the American Psychological Association, third edition. Production of HSR will be greatly facilitated if the manuscript is submitted on paper and on 5-1/4" diskette in a format that is compatible with the word processing software WordPerfect used with DOS (IBM-compatible) computers. For Volume 4, Number 4, please submit manuscripts by November 30, 1988.

Call for Research Results

If you have any results or are within three months of being able to report on them, please contact HSR.

Annotated Bibliography

The home centered learning annotated bibliography has been updated in 1988 and now contains over 350 entries on 43 single-space pages. If you have any additions to make to it, please send them to HSR. It is a tremendous source of information to anyone interested in studying home education. The 1988 cost is $8.00 (and $5.00 for additional copies).

A Comparison of Home Schooling and Conventional Schooling: With a Focus on Learner Outcomes (July 1986

A 57-page paper, presented by Brian D. Ray to the Department of Science, Mathematics, and Computer Science Education at Oregon State University, it carefully reviews the literature relevant to the title. It also includes sections entitled "characteristics of home schools," "possible explanations for observed home school outcomes," and "research potentials." The copyrighted paper is available from the editor of HSR for $8.00 (and $5.00 for additional copies). It is also available through Educational Resources Information Center, ERIC Reproduction Service No. ED 278 489.

Home School Researcher 1988

This is a quarterly publication dedicated to the dispersal of information relevant to the research of home centered learning (or home education or home schooling). The subscription rate for 1988 is $12.00. Unless otherwise specified by the subscriber, a subscription payment during 1988 is for the four 1988 issues.

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* * * HOME SCHOOL RESEARCHER * * *

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HOME SCHOOLING IN ALABAMA

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The popularity of home schooling over the past several years has prompted many states to provide guidelines for this alternative to traditional education. Thirty-one states now have adopted home-school statutes or regulations. Many other states have statutes that imply an exception from compulsory public-school attendance through open-ended language (Klicka, 1988). However, there are a few states, like Alabama, that have continued to be considered trouble spots due to their unstable and unclear legal situations over home schooling (Richoux, 1987).

In most cases the home schools of Alabama are able to function autonomously. There has been no legislation or court rulings to affect home-schooling practices. Local school districts in which home-schooled children reside are considered responsible by the State Department of Education for sanctioning home-school programs, although home-schooling families are under no actual obligation to seek that approval.

Most Alabama home schools operate "as a ministry of a local church." The families may enroll their children in a church school or qualify their home school as a church school. In 1982 church schools were exempted by law from the supervision of the state, except for certain enrollment and attendance requirements (Code of Alabama, 1982). Therefore home schools operating under this legal umbrella can operate autonomously. The extent to which home schools are associated with a church or established church school varies, as well as the degree to which they are supervised or guided.

Another way families in Alabama may home school their children and meet the requirements of law is to provide instruction by a competent private tutor (Code of Alabama, 1987). Under this statute, the parent must be certified to teach, but most home-schooling parents in Alabama are not certified. There has been the misconception by some home-schooling parents in the

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state that the law has allowed the hiring of a tutor who does not actually teach the children on a daily basis. They have believed that a certified teacher could be reported as a tutor for the children and only act to supervise instruction periodically. They have also believed that in using this option, no requirements were imposed upon them regarding curriculum, instruction time, and record keeping ("Good News," 1986). Some school boards have not questioned or contested this kind of arrangement (The Rutherford Institute of Alabama, 1985).

The legal and political ambiguities concerning home schooling in Alabama have led to inconsistencies in the treatment of home-school programs by local school districts. In some areas home schools can operate peacefully; in other areas the home-schooling families are subject to misdemeanor charges. Failure by parents to comply with the state's requirements has been considered to be "encouraging, causing and contributing to the delinquency, dependency or need of supervision of a child" (The Rutherford Institute of Alabama, 1985, p. 6). Several families in Alabama have been legally threatened for their home-schooling activities within the past five years.

Because of this unstable situation in Alabama, a knowledge base was needed on home schooling in Alabama. A study was undertaken to develop a profile of Alabama home-schooling families and their school programs. As a part of this study, data were gathered on the academic achievement of the home-schooled children in the state and comparisons made between their achievement scores and the achievement scores of public-schooled children.

Method

Subjects

The population consisted of all families in Alabama who were home schooling elementary-age children during the 1985-1986 school year. Many of these families lived in remote areas of the state and were not easily accessible. However, there were 84 children who were readily accessible through contacts with church ministries and home-school support groups. They participated in the study along with their 60 respective parents. There were 19 first graders, 23 second graders, 10 third graders, 12 fourth graders, 6 fifth graders, and 14 sixth graders. All of the children were between the ages of 6 and 12.

Procedure

The Stanford Achievement Test (SAT) was administered to the children in five locations in various sections of the state. At the same time, the parents of the children filled out an in-depth questionnaire about themselves and their reasons for home schooling their children. The items on the questionnaire were categorized into three parts. Part A, Demographic Information, was designed to identify certain characteristics of families in Alabama participating in home schooling. Part B, Information on

the Existing Home School, was designed to determine certain organizational and curricular aspects of home schools operating in the state. Part C, Reasons and Attitudes Concerning Home Schooling, was designed to identify the respondents' major reasons for choosing home schooling.

After collecting the data from the children and their parents, a profile was developed of these families and their home schools. The SAT scores were compared with the SAT scores of all public-schooled children in Alabama.
In addition, the SAT scores of Alabama home-schooled children were compared to national levels of the SAT.

Findings and Discussion

Characteristics of the Home-schooling Families

According to the questionnaire responses, the main home educator was found most frequently to be (a) female, (b) mother of the children, (c) college educated, (d) not certified to teach, (e) not experienced as a teacher in an elementary school classroom, and (f) not employed outside the home.

The main wage earner in the home-schooling family was found to be the father of the children. The father's occupations ranged from professional to blue-collar worker with the most common occupations being engineer, business manager, salesman, and minister.

Home-schooling families were found most frequently to be (a) earning $20,000 to $29,000 annually, (b) white, (c) attending religious services regularly, and (f) having a total of five people in the household with two being adults.

The home-schooled children were found to be almost equally of both sexes and ranging from 4 to 17 years in age. Most often, home-schooled children had never attended public school and had been home schooled for 1 to 3 years.

Characteristics of the Home Schools

A majority of the home-school programs in Alabama had similar organizational and curricular characteristics. The instructional program took place in the families' homes, and usually in the kitchen or dining room areas. Approximately 3 to 4 1/2 hours were spent daily on instruction while 1 to 2 1/2 of these hours were spent on daily teacher-directed learning activities. The rest of the time was spent on independent academic learning activities.

The parent-teacher spent about 1 to 2 1/2 hours weekly on planning. They used daily journals or logs, daily lesson plans, and long-range plans. At least 90% of the home schools planned for language arts, reading, mathematics, science, and social studies instruction on a regular basis. A majority of the parent-teachers also taught Bible or religious studies, writing, physical education, health education, homemaking, music, and art. The instructional material used for these subjects were mainly

commercially prepared for private or public schools and cost the family about $280.00 per year.

Instructional techniques used regularly included field trips, direct instruction, oral reading by the teacher and student, one-on-one tutoring, household work, informal discussions, silent reading, crafts and hobbies, textbook-directed instruction, and independent projects. Materials and teaching aids commonly used included workbooks and worksheets, children's literature, textbooks, reference books, household objects, art supplies, learning games, newspapers and magazines, and chalkboards. Few home schools used microcomputers, manipulatives, bulletin boards, or audio-visuals.

Teacher observation was the most popular evaluation method used in the home schools. Most of the parent-teachers also assigned letter grades to student work, administered standardized achievement tests, and mastery tests prepared by textbook publishers. Only one-third of the parent-teachers used teacher-made tests to assess learning.

Most of the home-schooled children were involved in social activities outside their homes. They regularly attended religious or Sunday school functions, interacted with other home-schooled children or with neighborhood children. About one-half of the children also participated in music and sports activities.

Reasons for Home Schooling

Home schooling was preferred by the parents for a variety of reasons. The two major reasons for home schooling that were identified by the questionnaire responses were that the parents considered it their responsibility as parents to educate their children and that the parents wanted to help their children develop social skills without negative peer influences. There were several other reasons which were major influences in a majority of the parents' decisions to home school their children. They had a desire to control the content of instructional material used by their children. They wished to preserve their children's natural curiosity and love of learning. The parents wanted to be the ones to provide the discipline their children needed. They desired their children to have more religious freedom in their education. Along with this, they wanted the opportunity to instill religious/spiritual and moral values in their children without the influence of other teachers. A warm and secure learning environment that provides a variety of rich educational experiences was sought. The parents did not want their children exposed to drugs, alcohol, or profanity. They wished to provide a learning environment based on cooperation instead of competition and free of pressure to achieve beyond the children's capabilities. They also sought a school situation where there would be a low student/teacher ration. The only reason that might lead the parents to a possible future decision to discontinue home schooling was if the children needed more instruction than could be provided at home.

Academic Achievement of the Home-schooled Children

The academic achievement of the home-schooled children in Alabama, as assessed by the SAT, was at grade level or above in almost all subject areas. The only exceptions were scores that fell below grade level in the mathematics area for Grades 1 and 4 and in reading comprehension and vocabulary for Grade 5.

Some interesting comparisons were made using these achievement test scores. Drawing solid conclusions from these comparisons may be problematic since the sample sizes for making statistical comparisons were small, randomization was not possible, and the effects of the intercorrelations of variables and multiple testing were difficult to control. The comparisons were tested at a stringent .01 level of significance, and Bonferroni's correction technique for multiple comparisons was used to maintain an experiment-wise error rate at the .01 level. The findings of the comparisons are noteworthy although good judgment must be exercised in interpreting them.

The first set of comparisons was made using two-tailed *t*-tests to test the difference between the mean scores of the Alabama home-schooled children and the Alabama public-schooled children at grade levels 1, 2, 4, and 5. The findings were that the home-schooled children performed at comparable levels to the public-schooled children at each grade level.

Other comparisons were made using analysis of variance to determine if significant differences existed in the achievement of groups of home-schooled children based on their SAT scores. The comparisons were made for the following groups using raw scores: (a) male and female, (b) level of education of the parent-teacher, and (c) teacher certification status of the parent-teacher. It was found that the home-schooled boys and girls performed comparably to one another on the standardized achievement tests. The level of education of the parent-teacher did not affect the performance of the children on the tests. And the home-schooled children whose parent-teachers were not certified to teach performed as well on the standardized achievement tests as those whose parent-teachers were certified to teach.

This study represented a sample of the home-schooled children in Alabama. Although the home-schooling movement in Alabama is new, having developed within the 1980s, it is continuing to grow. There are probably about 800 families that are home schooling approximately 3,000 children in Alabama. There is a trend of continuing interest in home schooling. Hopefully, efforts to stabilize the home-schooling situation in Alabama will increase and will be based upon accurate information. Such efforts made by informed legislators, educators, and parents will benefit all considered in Alabama.

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HOME SCHOOL CURRICULA

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Introduction

In Kotzehu, Alaska, 25 miles north of the Arctic Circle, students do math and English at midnight. In Booneville, California, they read what they choose at a mountaintop ranch, surrounded by sheep and goats. The number of home schoolers is increasing in every state, and dozens of support groups, newsletters and purveyors of curricula and books have sprung up to organize them, inform them, and supply them.

The years remaining in this century could present American education with some of the most critical challenges and dramatic changes in this nation's history. News media have set the stage for an intense self-study of this nation's schools. Three of the most widely known studies have been A Nation at Risk (The National Commission on Excellence in Education, 1983), High Schools and Making the Grade (Peterson, 1983), and A Place Called School (Goodlad, 1983). These 1983 studies voiced concern that the deterioration of quality in schools and colleges was jeopardizing America's ability to compete in the increasingly technological, international marketplace. The reports also added to the weight of evidence that the schools have failed in their mission. In order that America may function, citizens must be able to reach common understandings on complex issues, often on short notice and on the basis of conflicting or incomplete evidence. Education helps form these understandings, a point Thomas Jefferson made long ago:

> I know no safe depository of the ultimate power of the society but the people themselves; and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them but to inform their discretion. (Harris & Fillo, 1982, p. 26-31+)

One of the most significant developments in education is taking place far from the classroom. There is no danger of school bells or join-in bustle of students in school corridors.

Their parents, critical of deterioration public school systems of driven by religious motives, are educating their children at home - a movement that has been exploding across the country in recent years, with no end of growth in sight. Home instruction in the United States is not new; it began in colonial America. Home instruction has never disappeared in America. It has been predicted that by 1990 the number of parents choosing home schooling will reach at least one-half million (Harris & Fillo, 1982). This movement may possible be coupled with a public demand for improved curriculum and instruction for all children. The decade of the 1980s has produced nearly thirty major national reports and countless state and local studies which focused on a dissatisfaction with the present state of education and the necessity for improving the quality of education in America.

The fundamental reason for the future home education movement, according to Toffler (1970), is that the public schools in their present form are an anachronism, a creature of industrial society. This country has evolved from an industrial to an informational work force. This dramatic change took place in less than thirty years, whereas the turnover from an agricultural society to the industrial age took almost one hundred years. This increased pace of change produced havoc with social institutions, including educational ones ("Principals' perspective," 1984). The movement from limited choices to multiple options in every aspect of American society must now become an educational concern. The nation's school systems need to recognize the growing demand for alternative schooling.

Many conflicts between public schools and non-public schools center on the question of where to draw the line between state laws that mandate compulsory education and parents' rights to direct the upbringing of their children. Courts have declared most compulsory attendance laws to be constitutional. It is also clear today that parents can satisfy the intent of those laws by sending their children to private, secular, or religious schools. Not all state and federal courts have recognized that parents have a fundamental right to educate their children at home. As a general rule, however, courts have ruled in favor of parents who have alleged that their fundamental rights have been violated in relation to a compulsory attendance las requiring that their children be educated in a formal school setting.

Statement of the Problem

Legislatures and citizen groups increasingly pressure the public schools to explain and improve both the effectiveness and efficiency of education. For some parents, the satisfaction of watching their children grow in learning under their tutelage is a powerful motivation for alternatives.

Parental involvement has been a component of these alternative programs. Systematic research has focused on the role of parents and the home as a supplement to the efforts of public and private schools. The issue at hand is to determine

how to reinforce and mutually adapt home-school curricula to families. To meet that challenge, school personnel need a more complete understanding of the nature of family curricula. How children learn in the home environment compared to the school environment depends upon the curriculum and all aspects of textbooks, teacher certification, scheduling, and follow-up testing of knowledge and achievement. Intense research is needed on the nature of home-school curricula, beginning with a focus on the home-school curricula that families plan to teach or are currently teaching their children at home. With an increased understanding of these variables, schools and educators (as well as courts) can better approach the task of cooperation with all types of parents in an effort to educate the children.

This study was a determination regarding the extent to which state statutes regulate the curricula of home schooling. The study determined further to what extent courts have interpreted statutes providing for the regulation of home schooling. The scope of this research is an historical and descriptive study of the required curriculum, if any, that states mandate in home schools.

Home schooling is a topic that welcomes research since a review of the literature on the subject provided small amounts of current research. Many questions remain unanswered in the area of home-school curricula. A need was seen for research in this area since decisions in courts regarding home-school curricula are being challenged at the present time.

Letters were sent to the chief state school officer in each of the fifty states requesting information relative to home schooling and the curriculum in those schools. A list of resources was received from a computer search from the Educational Resources Information Center (ERIC). Visitations to actual home school locations became a living piece of research.

Historical Background to Home Schooling in America

The change that has taken place in the public school sector in the past ten years may have been initiated by several possible phenomena. Teacher disenchantment with the public school system of educating the masses, with needs of security measures, and teaching toward meeting the mandated testing requirements is present in the teaching field today. A conflict of ideologies within public schools today may be a result of the need of the public schools to be all things to all people. The back-to-basics movement of the eighties makes the taxpayers reluctant to support frills in the public school system, and the curriculum has been primarily determined by the mandated competency testing programs adopted by most states across the nation. The economic conditions of the present age, the conservative cutback on federal money for public schools, have caused the serious demise of many programs in the public schools that alternative schools may offer. The ethnic group pressures still active today following the desegregation of the sixties have continued to make

the alternative school movement attractive to many influential blacks as well as white citizens.

A trend in education today is toward self-help and not institutional help. Home instruction may be the self-help educational approach of the eighties.

Home schooling is not an idea new and unique to the twentieth century. Parents in the past have had the right and obligation to direct the intellectual and moral upbringing of their children. This is like the right to clothe, feed, and otherwise provide for the basic needs of children, which has not been questioned.

From the beginning of European colonization of North America through the first fifty years of American independence (1633-1830) formal education was designed for the privileged. It is to be understood at this point that beginning with the earliest settlers fleeing form injustices, all established schools in this country were private, church-related schools. The housewives in New England's towns held informal gatherings in their home to teach the youth their "letters" and church catechism. These were called "Dame Schools". Today, they are called home schools.

Until far into the nineteenth century most elementary schools were private or home schools. Most of them, whether private of public, were ungraded and unsupervised. The movement for the improvement of public education developed slowly before 1830, but more rapidly thereafter.

The Industrial Revolution changed the history of the United States and of education. Mechanics, as well as farmers, needed to be trained. More formalized education became a necessity.

Changes in the growth of the private school sector occurred in response to public school treatment of religious values, which has gone through three overlapping states. First, there was an evangelical Protestant period, beginning with the development of United States public education and lasting well into the nineteenth century. Next came a relatively brief period of non-denominational religious emphasis, an emphasis that never completely permeated American public education before it was overtaken by the third, and current, era of secular education.

The working class and Roman Catholics led the opposition to the development of the public education system. The political efforts to stop or alter the development of public education failed; the private education efforts endured. Well over 90% of the children in private schools were in Roman Catholic schools from the middle of the nineteenth century until the mid 1920s (Good & Tiller, 1983).

One public response to the new private schools was hostility. While the emergence of Catholic schools might have been seen as a clear benefit to overcrowded public schools hard put to accommodate the large numbers of new immigrants, some people saw the growth of new Catholic schools as a threat to public schools as well as undesirable and even unpatriotic. This movement had great influence on the concept of the rebirth of the home-school movement.

It should be noted that the underlying principal for a public system today is Jeffersonian. That is, ordinary people are the best managers of their own affairs. They should not be forced to attend a school planned only by administrators. This concept pushed many parents into the home and out of the public schools.

The historical background of our country reveals our traditions and ideas, and has embedded public education in our constitutions and governmental institutions. The founders of this country turned to the idea of public education to build common commitments to their young for their role as self-governing citizens rather than subjects bound to an alien sovereign. The idea of the common school took root in the nineteenth century and flourished in the twentieth century.

Post-World War II America was a very different nation from the one that had given birth to progressive education. The advance of the mass media, the proliferation of social welfare agencies under public sponsorship, and the rapid extension of industry-sponsored education programs literally transformed the balance of forces in education. Americans could concentrate more on the needs of the youth (e.g., education) and on the regrouping of society within the physical boundaries of the country.

The central effort of the fifties was to define more precisely the school's responsibilities and to delineate those things that the school needed to do since no other institution would or could get them done. The social activism of the 1960s helps to explain some of the social tensions of the 1970s and 1980s. The decade of the sixties is acknowledged to be a time of tremendous changes in the areas of race relations, sex roles and mores, and student activism. Among other things, the Vietnam War was a divisive issue for all Americans from 1964 to 1975. It took resources away from the war on poverty. Marches and draft card burnings dramatized the opposition. In addition, black Americans organized massive civil rights protests in pursuit of legal and social equality.

The advocacy of women's rights paralleled a "sexual revolution," a change of standards of conduct. The conflict over role of the woman in America persisted in the seventies and eighties.

The decade of the seventies has been described as the "me decade" when Americans were preoccupied with personal, not social issues. Social critic Lasch (1979) described America as a "culture of narcissism" in which each person looked out for his own security and survival. Schaeffer (1976) described the cultural shift from the optimism of the New Left and the youth culture of the sixties to the fixation on "personal peace and affluences" in the seventies.

Americans lost interest in promoting social change since they were skeptical of their power to change the world for the better. The Vietnam War was humiliating for many people. In 1974, the first resignation in the history of an American president occurred after charges of dishonesty and political

espionage were substantiated against Richard Nixon and his staff. The price of gasoline quadrupled after an Arab oil embargo. The United States suffered a recession that included high unemployment and double -digit inflation in the seventies. Survival was an individual response.

The majority of the school-age population attended public schools despite a growing sense of dissatisfaction with the quality of the education provided. Declining discipline was a major complaint, as was the decline in scores on standardized tests. Parents worried about drug use and sexual experimentation by students. concerns over the physical safety of students became a public issue.

Some Americans were not satisfied with conventional schools, public of private. The ideals of social equality and the desire for freedom from the "Oppressive" conventional institutions gave rise to several kinds of schools. To the existing private schools were added new secular educational options. "Free schools", "freedom schools", "community schools", and "alternative schools" were begun in the sixties and seventies. New Left Alternative Schools emerged in the 1960s as a criticism of American society as unjust not only to blacks but to the poor generally. The influential social critic and self-styled "anarchist" Goodman (1960) became a spokesman for the New Left with the publication of Growing Up Absurd, a searing indictment of the American educational "establishment," the "organized system."

The alternative school movement contributed to the emergence of home schooling in several ways. Alternative school advocates criticized public schools and created their own options outside the system using non-certified personnel. Alternative schools allowed parents and children a choice among different teaching methods and curricula. Existing alternative schools provided curricular and legal support for home schools.

The literature and this author's research suggest that reasons for educating children in alternative settings include ideas related to parents finding the public schools too orthodox in their curricula and procedures, escaping racial integration, separation from government-controlled education, religious and "sociopsychological objections" to public schools, the desire to protect children from exposure to objectionable secular values, disagreements with teachers and other school officials, and the desire for a quality education.

Statutes requiring school attendance at certain ages have long formed the backbone of the American Educational system. In Pierce v. Society of Sisters (1925), the United States Supreme Court declared that the state has the power "to require that all children of proper age attend some school." The United States Supreme Court ruled in Wisconsin v. Yoder (1977) that the parents' rights to direct the religious upbringing of their children must be weighed against the state's interest in educating children. The Court based its decision on 300 years of Amish mode of life which produced self-sufficient citizens. The

1943 ruling in Commonwealth v. Bostlik confirmed that the Compulsory Education Statute does not require children to attend public school. It is the parents' decision to send them to private school, a tutor, or educate them at home. The United States Supreme Court's historic ruling in Brown v. Board of Education (1954) established the importance of compulsory school attendance.

Home-school litigation has stemmed from the basic concept of the compulsory attendance laws in the fifty states. These cases have been based on the belief that parents have a natural and constitutional right to determine the manner and place of their children's education and that fundamental rights of parents are abridged by compulsory attendance statutes.

Religious motives are behind much of the recent surge in home schooling. The growth of home schools parallels the rise of Christian fundamentalism, which describes a perceived "godlessness" in the public schools and which includes belief in literal interpretation of the Bible.

Summary

The purpose of this study was an examination of state control of curricula offered in home schools. Research for this study was accomplished through a review of literature, and analysis of the statutory provisions of the fifty states, and a study of judicial decisions rendered in relation to the statutes. No attempt was made to create an ideal curriculum for the education of students. Instead, this researcher sought to ascertain the current legal status of what is required and what is allowable in curricula of home schooling. It was found, as a general rule, that no state had a prescribed curriculum at the end of 1986. However, currently some states are considering, or have considered, a prescribed curriculum for home schoolers.

Many educators within the public sector have been concerned about the retreat to non-public forms of education rather than seeing this as an opportunity for parents to exercise an option of providing what they believe to be a better educational opportunity for their children. Many of them have retreated to non-public and home schools for purported religious, social, ethical, or philosophical reason.

Recommendations

This research was undertaken, not for the purpose of evaluating the desirability or need for standard curricula within home schools, but rather for the purpose of determining what is legal for a segment of society faced with making informed decisions related to the curricula of home schools in relation to the curricula offered by their public counterpart. Parents considering home schooling need to know the legal ramifications of establishing a curriculum. Legislators need to know the judicial aspects of enacting laws relating to the issues of

curricula, and public school employees and boards must be prepared for issues relating to the area of curriculum within their local and immediate purview.

The following recommendations are offered for the above categories of people who are concerned with and affected by home schools:

1. All who have vested interest in education of children should be familiar with statutory requirements for curricula of home schools within their states. An awareness of the current rapidity of change in this area is of paramount importance. Therefore, a complete and thorough understanding of statutory changes is highly recommended.

2. A working understanding of current trends in home-school curricula legislation is helpful for planning and implementation of programs, statutes and legal sanction. A familiarity with court decisions on home-school curriculum within the state and at the federal level is highly recommended.

3. Before entering suit, litigants are encouraged to be cognizant of the procedural due process rights of parents, and these rights must be honored.

4. Statutory interpretations and their implementation through policies, rules, and regulations need to be clearly understood and applied in a non-discriminatory manner. This should prevent litigation based on arbitrary or capricious application of the statutes.

5. It is the responsibility of the home school to abide by statutes governing curricula in a home school, and it is the responsibility of school officials to ensure that the legal implementation of the statutes is adhered to.

6. It is recommended that home schools be licensed so that home school parents and proponents can be notified of statutory requirements for curricula, testing, and all the aspects of home schooling covered by statute.

7. When public officials challenge parents who offer home schooling, they should be prepared to prove that the curriculum is not meeting statutory requirements.

8. Legislatures within a state should make every effort to eliminate ambiguity in existing statutes.

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A 57-page paper, presented by Brian D. Ray to the Department of Science, Mathematics, and Computer Science Education at Oregon State University, it carefully reviews the literature relevant to the title. It also includes sections entitled "characteristics of home schools," "possible explanations for observed home school outcomes," and "research potentials." The copyrighted paper is available from the editor of HSR for U.S. $8.00 (and $5.00 for additional copies). It is also available through Educational Resources Information Center, ERIC Reproduction Service No. ED 278 489.

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This is a quarterly publication dedicated to the dispersal of information relevant to the research of home centered learning (or home education or home schooling). The subscription rate for 1989 is U.S. $15.00. Unless otherwise specified by the subscriber, a subscription payment during 1989 is for the four 1989 issues.

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INDEX FOR HOME SCHOOL RESEARCHER
1985 to 1988

Volume 1 No. 1 March 1985
Making History
Presenting:_____
Presenting: Linda Anderson
Research resources
A Critique of the Philosophy of Education of John Holt, A Home School Advocate, by Brian Ray
A Last Note

Volume 1 No.2 June 1985
Summer Greetings
Presenting: Ellen Moeller
Schools as a Cause of Behavior Disorders, by Kathleen M. Knez
Presenting: Jane Van Galen
Review of "Why Teachers Fail" by John Holt, by Brian Ray
Last Notes

Volume 1 No. 3 September 1985
Announcements
Presenting: Tom Tehan
On Compelling Belief: The Culture of American Schooling by Stephen Arons, by Brian Ray
Presenting: Mike Shepherd
Home School Researcher Mailing List

Volume 1 No. 4 December 1985
Presenting: Sue Greene
Summary of Home Study in Alaska: A Profile of K-12 Students Enrolled in Alaska Centralized Correspondence Study, by Sue S. Greene
Review of "It Depends on your Aim" by Raymond Moore in September 1985, Phi Delta Kappan, by Brian Ray
Parent as Tutor Experimental Program in Washington State, summary by Brian Ray
Announcements

Volume 2 No. 1 March 1986
Presenting: John Wesley Taylor V
Review of "Homes as Schools" by Jack McCurdy, by Brian Ray
Home Based Leadership Conference, by Brian Ray
Announcements

Volume 2 No. 2 June 1986
Self-Concept in Home-Schooling Children, by John Wesley Taylor V
Comments on the Self-Concept Study by John Wesley Taylor V, by Brian Ray
Presenting: Jon Wartes

Alaska's Centralized Correspondence Study Program, by Brian Ray
Announcements

Volume 2 No. 3 September 1986
The Home Schooling Movement: An emerging Conflict in American Education (an abstract), by Michael Steven Shepherd
Comments on Shepherd's Home Schooling Movement Study, by Brian Ray
On "Adults' cognitive demands at home and at nursery school" by Tizard, Hughes, Pinkerton, & Carmichael, by Brian Ray
Announcements

Volume 2 No. 4 December 1986
Presenting: Alan B. Rose
On "A Qualitative Study of the Characteristics of Home Schooling Families in South Carolina and the Perceptions of School District Personnel Toward Home Schooling" by Alan Barry Rose, by Brian Ray
Presenting: Jayn Allie-Carson
Announcements

Volume 3 No. 1 March 1987
Report from the 1986 Home School testing and other descriptive information about Washington's Home Schoolers: A Summary, by Jon Wartes
Comments on the 1986 report from Washington Home School testing and descriptive information by Jon Wartes, by Brian Ray
Presenting: Beverly Schemmer
On Case Studies of Four Families Engaged in Home Education by Beverly Schemmer, by Brian Ray
Announcements

Volume 3 No. 2 June 1987
Review of Schooling in Private: A Study of Home Education by Jane Van Galen, by Brian Ray
Presenting: Sam B. Peavey
The Frontier of Educational Freedom: Home Schooling, by Sam B. Peavey
Review of An overview of Home Instruction by Patricia M. Lines, by J. Gary Knowles
Presenting: Maralee Mayberry
Announcements

Volume 3 No. 3 September 1987
Review of Home Educated Children's Social/Emotional Adjustment and Academic Achievement: A Comparative Study by Mona Maarse Delahooke, by Brian Ray
Presenting: Russell Doll

Home Education: A Critical Review of the Statutes and Case Law, by Mathew D. Staver
Advertisements
Announcements

Volume 3 No. 4 December 1987
The Home Schooling Movement in Central Kentucky, by Pauletta Offutt Kutter
Review of Home Schooling: A Review of the Literature by Mary Anne Pitman, by Jane Van Galen
Barnebey's Study of University Admission Requirements for Home Schooled Applicants, and a Follow-up Study, by Brian Ray
Advertisements
Announcements

Volume 4 No. 1 March 1988
The 1987-88 Oregon Home School Survey: An Overview of the Findings, by Maralee Mayberry
Understanding Parents who Teach Children at Home: The Value of a Life History Approach, by J. Gary Knowles
Announcements

Volume 4 No. 2 June 1988
Summary of Two Reports from the Washington Home School Research Project, 1987, by Jon Wartes
A Study of Home Schooling: Parental Motivation and Goals, by Sonia K. Gustafson
Announcements

Volume 4 No. 3 September 1988
Reasoning Abilities of Home-Educated Children, by David Neal Quine and Edmund A. Marek
Why Home Schooling? A Profile of Four Categories of Home Schoolers, by Maralee Mayberry
Announcements

Volume 4 No. 4 December 1988
Home Schooling in Alabama, by Jennie F. Rakestraw
Home School Curricula, by Linda P. Fox
Resubscribe
Announcements
Index for Home School Researcher, 1985 to 1988

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Editor

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THE EFFECT OF HOME SCHOOLING ON THE LEADERSHIP SKILLS OF HOME SCHOOLED STUDENTS

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If what the world needed in the sixties seemed to be "love, more love," what many clearly believe it needs in the eighties and beyond is leadership, more leadership. Marano (1985), Assistant Director of Student Activities for the National Association of Secondary School Principals, declares that "one of the greatest needs of our nation is good, honest leadership" (p. 1). However, the "outlook for better leadership in our leadership-poor society is not encouraging" declares Greenleaf (1977, p. 4). In a similar tone, Stott (1985), British theologian and director of the London Institute for Contemporary Christianity, writes:

> Many people today are warning us that the world is heading for disaster, but few are offering advice on how to avert it. Technical know-how abounds, but wisdom is in short supply. People feel confused, bewildered, alienated. We are like "sheep without a shepherd"--and our leaders often appear as "blind leaders of the blind."
>
> There is a great need for clear-sighted, courageous, and dedicated leaders in the home, the church, the community (p. 24).

Increasingly, educational leaders at both the higher and secondary education levels are beginning to pay attention to this issue of leadership, to the things that are happening or not happening in our schools and on our campuses that nurture and develop students' potential leadership skills and increase the likelihood of adult leadership. Spitzberg (1987), director of the Association of American Colleges' Council for Liberal Learning, observed that as of 1987 between "500 and 600 campuses are paying attention to developing their students as leaders" (p. 24), and that such development "is an important personal and social goal" (p. 28).

A review of the literature on leadership highlights two primary links between the potential for leadership in any given child and the realization of that leadership in adulthood. Those links are (1) family environment and experiences during childhood, and (2) family environment coupled with school experiences during adolescence. Pace (1987, p. 3) asserts that the number one issue for an agenda that promotes the scholarly study of leadership is "the link between family and leadership," and while leadership is learned, not inherited genetically,

> much of what the potential leader brings to eventual leadership is learned from his or her family exposure. In the family environment are the values of leadership. I am convinced of this fact though I have no scholarship on which to rest my case (p. 3).

In fact, there is considerable scholarly research on which to rest his case.

Bass (1960), one of the country's most prolific writers on leadership and the leadership research, summarized his own and numerous other studies. In addressing the question of what research tells us about the development of and the transfer of leadership skill, Bass delineated the significance of childhood and adolescent experiences. Childhood experiences center on the family and family relationships; adolescent experiences on the family and school. Citing studies by Wittenber, Piaget, Burgess and Contrell, Meerlo, and others, Bass found that "the individual relives his primary family group experiences in any other group to which he belongs" (p. 192), and in summarizing the relevant studies, he concluded,

> Thus, the future leaders (ignoring situational considerations) are likely to come from homes where they have been given opportunities to practice problem-solving, particularly interaction problem-solving; from homes where they have been stimulated and not left to their own devices; from homes where they have been treated as a function of their level of maturity rather than babied or pushed too rapidly; from organized harmonious homes emphasizing positive incentives. (p. 198)

If Bennis is correct in concluding that "the ability to lead is a skill that can be taught to--or at least learned by--everyone" (cited in Boucher, 1985, p. 50), then a logical corollary is that a healthy family environment during childhood is the first phase in the development of a child's leadership potential. The second phase, adolescence, is the phase that Bass (1960) labels "the proving ground" for adult leadership success. Bass sees school experiences and school relationships as taking on increasing significance in the process of leadership development. He notes that "certain social proficiencies, if learned during adolescence, often aid in an individual's success in interacting with others as an adult. Failure or lack of opportunity to develop these proficiencies, may prove a handicap to the would-be adult leader" (p. 202). He gives as examples of the kinds of activities for practicing leadership that may affect success as an adult leader activities that we normally associate with school: dancing, team sports, club meetings, and dating. These are activities, in other words, that comprise the school's co- and extra-curricular programs.

Having declared that one of our nation's greatest needs is "good, honest leadership," Marano (1985) suggests that secondary extracurricular student activities go a long way toward fulfilling this need, go farther than or at least as far as any

other aspect of school programs, and have obvious "value in supplementing academics with leadership skills training" (p. 2).

Gohlson (1985) surveyed literature on special talent and outside-of-school achievements. He concludes "that GPA, rank in class, and secondary and college grades tend to be independent of nonacademic accomplishment" (p. 18). Joekel (1985) contends that the student activities program "is where many opportunities are provided for developing leadership and a concept of self-worth and for meeting the social and emotional needs of students" (p. 4). Joekel also finds that "there is little correlation between leadership and scholarship" (p. 5) but that study after study finds "the most consistent predictor of a person's life success [to be] major achievement in cocurricular activities" (p. 6). Joekel's references include at least five scientific studies in a list of sixteen scholarly works. Bass (1981) notes that there are numerous research studies which indicate that

> leadership in elementary school, high school, and college [is] predictive of later leadership in adult business and social activities . . . [and] that leadership in extracurricular activities [is] more highly related to various criteria of adult success than [are] scholarship or academic achievement. In other words, leadership rather than scholarship [is] best predictive of later leadership. (p. 479)

Thus, we can conclude that it is not IQ scores, socio-economic status, or grade point average that are most predictive of a student's taking on leadership roles in adulthood, but rather his or her leadership experiences while in school. These are experiences such as being a student body officer, class or club president, athletic team captain, head cheerleader, editor of the school paper, homecoming chairman, and so forth. If, leadership is, in the words of Gardner (1988), "a performing art," a skill and an approach to life better developed through participation in extracurricular activities than through academic studies, what effect does home schooling have on the potential leadership of home schooled students? After all, there is no student council at home, is there? There is no pep club, debate team, honor society, athletic team, cheer squad, chess club -- none of the activities comparable to the extracurricular programs students experience in middle and high schools. Or are there?

With home schooling being a legal option and a growing movement in Washington state, it was the purpose of this study to explore the state of the art of home schooling in Washington state, particularly in the rural and urban areas of Puget Sound, to determine the extent to which those conditions that foster leadership in children and adolescents are operating in the home schooling experience. The condition that was the focus of the study was the environment of the home school: Is there something occurring in that environment that adequately compensates for the extracurricular program and leadership experiences of a conventional school setting?

Method and Procedures

The first step in this study was to identify those conditions that comprise the key ingredients in students' leadership development. The second step was to determine the extent to which the home school environment and structure provide these conditions. To do this, three sets of interview schedules were designed, one for home schooling parents, one for home schooling students, and one for a control group of conventionally schooled students. The 26-question interview schedule for home schooling parents was designed to elicit data about five primary moderating variables. These variables were (1) motivations for home schooling, (2) home school structure and climate, (3) parent attitudes/expectation regarding independent thinking and action, (4) what leadership experiences have been built into the home school program, and (5) how much and what kind of out-of-home leadership experiences the student(s) has. Other moderating variables that were considered included (1) age of student, (2) sex of student, (3) number of years in a regular school setting preceding the home schooling experience, (4) whether home schooling is a parent choice only or a parent and child mutual decision, (5) socio-economic status of the family, (6) intelligence of the student, (7) accessibility of and use of community resources, such as libraries and museums, (8) personality traits, and (9) nature of the home school, that is whether the student(s) is in isolation or in active contact with the community and peers.

The interview schedule for home schooling students consisted of 16 questions which focused on their perceptions of the advantages and disadvantages of the two kinds of school systems (home and conventional), the at-home and out-of-home group activities in which they participate, their perceived role in those activities, their perception of how home schooling has affected their lives, and their plans for the education of the children they will some day have.

A stratified sample of fifty urban, rural, and suburban families, and of families representing a range of family values and motivations for home schooling was selected and interviewed between May and October of 1988, with one student interview taking place in January of 1989. Because most of the research related to the issue of predicting leadership deals with adolescents and preadolescents, only families with home schooling students who were at least ten years old were interviewed for this study. The interviews were with fifty-five parents and eighty-seven students ages 10 to 21, and required traveling over 2,000 miles in Washington state. The interviews with parents averaged one hour in length; those with students averaged twenty minutes, for a total of approximately 100 hours of personal interviews. With few exceptions, the interviews took place in the family's home.

In addition to meeting with and interviewing home schooling parents and students, I interviewed a random sample of same age/sex students in grades 5 to 12 at Crista Schools (Seattle, WA) during the fall of the 1988-89 school year in order to have a point of comparison with the home schoolers. A judgment cannot be made about the extracurricular program of the home school without having some sense of the extent to which students in a conventional system, with similar backgrounds, pursue whatever opportunities they have. The student and parent bodies of Crista Schools (King's Elementary, King's Junior High, and King's High School), are more similar in their characteristics than the parent and student bodies of any given public school. Like Washington's home schooling parents, Crista parents typically are two-parent families who are highly involved in their children's education and lives, have strong religious commitments and values which they want to be an integral part of their children's education, and they run the gamut from low to upper income levels, with more being in the lower-middle than upper-middle levels.

Findings

Not surprisingly, the parents in this sample tended to demonstrate the same traits and qualities that are showing up in most of the recent home school research (Ray, 1988), and those are the traits related to leadership and summarized by Bass (1960). These traits include loving, nurturing parents who have taken on the risks of home schooling out of a conviction that their children are not well-served by the conventional system, either academically or socially. They view their children as having above average abilities and potentials and, as a group, they expect their children to achieve, both academically and socially, at above average performance levels. A detailed discussion of the data derived from the parent interviews can be found in my forthcoming dissertation (Seattle University). It is the data from the student interviews that is the focus of this summary.

To the extent the student sample is representative, it is clear that this state's adolescent home schoolers prefer the home to the conventional school by a wide margin. Of the 81 students who clearly answered the question, "Which kind of school do you prefer?", 71% responded with "Home school" or "Home school!"; 15% said they liked and/or disliked both systems equally; and 7% said they preferred the conventional school. In response to the question, "What things do you do [or did you do] in your home school that you did not do [or do not do] in a conventional school?", students identified 242 experiences unique to the home school, three of which were negative (no recess, mentioned once; fewer friends, mentioned twice). Taking those experiences that were identified by at least nine per cent of the sample (ten of eighty-seven students), their responses could be grouped into

five major categories (Table 1). The major differences between the home school and conventional school as perceived by home school students are shown. The number in parentheses represents the percentage of students whose responses fell into that category.

1. Control of one's schedule (often stated as learning more because of having greater flexibility, less rigidity, more freedom in determining the schedule, or having responsibility for one's own learning)	(56%)
2. Control of one's time	(52%)
3. Better academic progress/learning environment	(38%)
4. Greater frequency and variety of activities/ field trips/ travel	(36%)
5. No worry about "being cool" or wearing the "right things"	(9%)

Table 1. Differences between home school and conventional school as perceived by home school students.

The first two categories are closely related. It was sometimes difficult to determine in which category a student's response in fact belonged. Together, they represent by far the majority of responses, over 100%, since many students identified experiences in both categories. What stands out in these responses is a clear indication of the value these students place on time and on having control of their time and their learning. This is significant because it is a value that stands out in the literature as a characteristic of leadership.

Still, there is the primary issue of the home school's extracurricular program and students' opportunities for practicing leadership. Table 2 shows a comparison of the participation rates of home school students with those of the Crista Schools control group in major out-of-home organized group activities that are available to both groups, either at school or in the community or both.

Activity	Percentage of Students Who Participate	
	Home School Students	King's Students
Church youth group/ related church activities	83	88
Jobs/paid work	78	80
Sports	55	88
Summer camp	54	76
Music lessons/recitals	43	44
Performing groups	28	96
Scouts/youth clubs/4H	26	28
Nothing (that is voluntary)	2.29	4

Table 2. Home school and conventional school students' participation rates in out-of-home activities.

The chi-square (X^2) test of association was used to test the question, Is there a significant difference between these two groups? The null hypothesis for each table was that there is no significant difference in the participation rates of these two groups of students. With an alpha level of .05 and one degree of freedom, the critical value was 3.84 to reject the null hypothesis. The derived values fell below the critical value in five areas of activity: church youth group and related church activities (X^2 = .065); jobs (X^2 = .065); volunteer/community service work (X^2 = .503); music/dance lessons (X^2 = .01); and Scouts/4H, and similar youth clubs (X^2 = .166). The chi square value also fell below the critical value in the area of a student's decision to participate in nothing not required by a parent or school (X^2 = .376). There was a significant difference in three areas of activity: sports (X^2 = 8.983); summer camp (X^2 = 3.886); and performing groups (X^2 = 36.53).

It is important to point out here that students at Crista Schools have no choice but to participate in a performing group at some point beyond fifth grade, and thus their responses provide somewhat skewed percentages compared to their public school counterparts. It should also be noted that King's students typically participate in extracurricular and outside-of-class activities at higher levels than do those students in other Class A schools and in all Washington high schools who were involved in a particular test and studied by Washington Pre-College Testing Program (1988). Whatever weight is given to these statistics must be qualified. The thirty-one per cent of the students in the King's High Class of 1988 who participated in this testing program comprise a representative cross section of their class. The comparison figures for the Class A and all Washington high schools in the report are based upon the results from the 50% to 60% of the juniors and seniors in Washington's

high schools who took the same test at the same time. They are a representative sample of the state's college-bound students, not a random sample of all the state's high school juniors and seniors. Thus, the home schooling students in this study are being compared to a group of college-bound students who participate in extracurricular and out-of-school activities at rates typically higher than those of other college-bound students in this state. Further, it is assumed that college-bound students participate more actively in extracurricular activities than do the non-college-bound. This adds significance to the fact that in five major areas of activity there appears to be no significant difference in the participation rates of home schooling students and King's students.

It is not surprising that students in a conventional school appear to participate in team sports at a significantly higher percentage than do home schooling students. Sports are readily available at a school and coaches have daily contact with students and can actively recruit them into their sports. Nor is it surprising that students in a school that values and requires student participation in the fine and performing arts are apparently participating at a much higher rate in performing groups than are home school students. Findings that are surprising are the insignificant differences in participation in the areas of volunteer/community service (since King's students are required to complete a certain number of service hours every year beginning in seventh grade) and in the area of a student's choosing to not participate in anything. One would expect more home schooling students to avoid voluntary participation than conventionally schooled students, if for no other reason than that it requires more effort to find activities outside of the home in which to participate than it does to join a group of friends at school in a given activity.

Discussion

From the results of this study it would appear that home schooling is not generally repressive of a student's potential leadership, and may in fact, nurture leadership at least as well as does the conventional system. In addition to the findings about student perceptions of and value of time, three other patterns stand out as characteristics of this state's home schooling population. First, home schooling students have as their models parents who are leaders and who demonstrate on an ongoing basis those traits that stand out in the literature as important leader traits (e.g., see my forthcoming dissertation, Seattle University). Second, the message that home schooling children receive from their parents, both explicitly and implicitly, is that they are special people, valued and capable members of the family, cut from extraordinary cloth. When given a list of changes that many people feel need to take place in our schools and asked if they would return to the system if these

changes took place, parents typically replied that frankly, the conditions in the school are no longer relevant to their decision to home school. They are having so much fun with their kids, so enjoying being with them, learning with them, seeing them free to develop their various potentials rather than having to worry about being beaten up on the playground or not getting an A on a test, or being on the fringes of the major cliques, that there is no way they would give up their home schooling. "Our children," they say, "are the finest people we know. They're a pleasure to be with. Why should we let someone else have them all day?" Remember, these are parent comments about teenagers, not about six- and seven-year-olds. And the literature insists that a child's leadership potential is profoundly nurtured by such messages. Third, home schooled adolescents are not isolated from social interaction with their peer group nor denied participation in a variety of at-home and out-of-home organized group activities. These students, as a group, are involved in teaching younger siblings, 4H Clubs, Boy/Girl Scouts and similar youth clubs, church youth groups and church responsibilities (such as assisting in the nursery) teaching Sunday school classes, and assisting with summer youth programs; nearly 80% of them are running their own businesses, such as paper routes, lawn care, taking care of neighbors' houses in their absence, babysitting, and so forth; over half take on volunteer or community service projects, such as being a Candy Striper in a hospital, visiting people in nursing homes, doing chores or babysitting for needy families, assisting in various ways at the Pacific Science Center, and a host of similar such activities; those who have joined one of the dozens of support groups available to the state's home schoolers are involved in that group's weekly, biweekly, and/or monthly instructional and social activities. The perception of home schooled students as being isolated, uninvolved, and protected from peer contact is simply not supported by this data. To the contrary, there were a number of students who reported having increased social contact and group participation because school required less of their time.

It is hoped that this study will compel those of us who are members of the secondary education community to take a much closer look at those elements of our school programs that potentially affect our students' leadership development and therefore the future leadership of our nation. If our nation is to cease being at-risk, we must attend to more than our academic curriculum. Parents, educators, legislators, citizens must work together to release the potential that resides in our youth to generate vigorous and ethical leadership in all our institutions. Our home schoolers are perhaps lighting one pathway that leads toward that end.

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Home School Researcher Vol. 5, No. 1, 1989, p. 11-20

A STUDY OF THE DEVELOPMENT OF HOME SCHOOLS AS AN ALTERNATIVE TO PUBLIC SCHOOL EDUCATION

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There was a significant amount of press coverage given to the issue of home schools in 1984 as the Tennessee legislature struggled with a bill that would allow parents to educate their children at home. As could be expected, it caused concern on the part of public school educators. The bill had many facets. For example, it specified level of formal education required of parents to teach their children at different stages of their education. It was this requirement, rather than whether parents should be able to teach their own children, that caused the concern of the legislators who voted against the bill. Some of the senators wondered how many people would have the desire to start home schooling or how many were doing so in violation of the existing laws in Tennessee as well as the rest of the United States.

The number of parents choosing home schooling has increased steadily each year. There is no way to know for sure the number of home-schooled students because many families are doing it and school authorities are not aware of their existence. This problem must be dealt with by the public schools because it does not seem to be going away as many "fads" in education have in the past.

It was apparent that it was time for us to look at these parents and the reasons why they are selecting such "unauthorized" programs of education for their children. Lines (1982) found that some of those who chose home schooling often see public schools as being too traditional or too conservative. Some parents feel that public schools are too liberal or do not provide the moral or religious instruction that they feel is essential to the children's education.

In spite of the diverse reasons that draw parents to home schooling, they share a profound belief that the public schools are not providing a healthy environment for their children (Divoky, 1983). They also share a need to have some control over their children's learning and development.

If public education is to be responsive to the needs of children, it must be responsive to the needs of all of the children. It is for this reason that officials must research the causes for the discontent.

Statement of the Problem

Public school educators are concerned that the increase in the establishment of home schools will eventually lead to a decrease in the control by public school officials over school attendance and thereby to a decrease in the effectiveness of the entire public school system.

Purpose of the Study

This study was to develop a profile of existing home schools in an attempt to find some common characteristics of them and their operators. The study was also designed to identify some of the concerns parents have about public schools by examining their reasons for choosing home schooling as an alternative.

Review of Related Literature

The term "home schooling" is often used (Holt, 1981) to describe the process by which children grow and learn in the world, without going to schools. The home is used as a base for children's growth in the world and is not really a school at all. It is not an artificial place, set up to make learning happen and in which nothing except learning ever happens.

For the purpose of this study, the literature which was reviewed included that which specifically refers to schooling in the home with the parent or parents as the primary instructors. This is in keeping with the accepted meaning of the term.

Historical Foundations

In the days of the Roman Empire, the education was gained solely in the home. The formal education, mostly for the boys, was done by slave tutors. Later, groups of parents hired a teacher to come to the community and set up a school, but the home was still important in the educational process.

For 150 years there has been an increasing tendency for schools to take over functions once reserved for the informal interaction of the family, the church, and the community (Debenham et al., 1978). Colonial children learned the values, attitudes, and beliefs of their culture, as well as most of it's ways of earning a living, through daily home and family life. Children learned adult roles by observation of parents, older siblings, relatives, masters, or neighbors.

A study of colonial educational patterns (Woytanowitz, 1979) could be the key which opens the door to a better comprehension of suitable and limited goals for today's schools as well as to a renewed appreciation of the family as an educational agent. The reason for the resurgence of the home schooling idea might be a positive attitude toward the family as an educational agent.

Several educational innovations are rooted in the home school setting. Among them are apprenticeship training and private schools. Apprenticeship training began first in the home schooling setting (Good, 1956), as did other segments of educational development. The father trained his sons in the family craft skills. Increasingly complex societies demanded more variety of skills than could be learned at home.

The private school (Good, 1956) idea seems to have emerged in the homes of the wealthy landowners. They hired tutors to come into their homes and educate their children. Such education took place within the home environment. Since the tutors carried out their education under the direction and for the purposes of the parents, in the physical facility of the home, some of the teaching of parental values was maintained.

The working class could not afford the luxury of private schools and opted for a type of "community school" in which a teacher would come in and give the children the basic training necessary to meet the community standards. The rapid growth of the country and the development of factories caused a rapid change in the attitudes of citizens about education. It was felt that most parents did not have the time nor the ability to properly educate the children and this responsibility should be left solely to professional educators without any parental interference.

The growing rift between public schools and home traditions widened still further after the Civil War (Good, 1956). Educators initiated a growing attack on the home as a center of indifference toward education. Their premise was that ignorance and lack of home interest prevented the full realization of the goal of universal education. The answer was compulsory school attendance. This placed the responsibility of education and its guidance on the professional educators, a move away from the home and family.

Statutes requiring compulsory education of children (Reutter & Hamilton, 1970) within certain ages have long formed the background of the American educational system. The courts have found that the enactment of these compulsory attendance laws is a valid exercise of the police power of the state.

Compulsory School Attendance Laws

Compulsory attendance laws have a 137-year history in this country, dating back to 1852 when Massachusetts enacted the first one. It became apparent that it was somewhat naive to require communities to provide education, which it did as early as 1642, if pupils were not being required to attend. Other states followed the example of Massachusetts, and by 1918 all of the then existing states had such legislation. On a number of occasions, compulsory attendance laws have been successfully challenged in the courts, and the courts have definitely established that a pupil may not be denied his right to attend a private rather than a public school.

Acceptable ways of complying with a compulsory education requirement vary widely among the states. Some states demand certification of teachers and schools; some require only that the schools be approved, and some merely require minimum evidence that schooling actually takes place.

Rebirth of the Home Schooling Movement

Many parents see distinct educational benefits to home schooling, thus causing the idea to soar recently in popularity. They see study plans built on each child's specific interests and individual rate of learning, freedom for a child to pursue a topic as long as he or she wants, and lack of competition and debilitating peer pressure.

Not all parents want to teach their children at home for such good reasons (McCoy, 1983). One person cited the example of a home schooling couple who didn't want to share their affection with a teacher or classmates.

Opposition to Home Schools

Educators who oppose home schools do so not because they hate parents and are against children learning at home, but partly because they don't believe children schooled out of the regular school program are being treated fairly. Too often children suffer from their parents' selfish interests.

While school authorities are concerned that home schooled children might be missing something, their primary motivation probably comes from the feeling that to allow greater freedom in the establishment of home schools might weaken the confidence or faith parents have in public schools in general.

Betty Anderson, former assistant executive secretary of the Tennessee Education Association, asked the legislative panel studying home schooling in Tennessee to consider the socialization of the child (TEA News, 1983). She thinks realistic contact with a society in which the child is expected to function is a factor which cannot be overlooked in a discussion of private and public education. The issue of socialization becomes particularly significant when home schools enter the picture.

Postman, author of Teaching as a subversive activity, agrees that schools are far from perfect (cited in Diamond, 1979), but he believes that the classroom can be beneficial in important ways. This is where children learn the rules of how to function with strangers. In a sense, the essence of civilized behavior is learning how to react to others who are outside the family.

Most home-teaching advocates admit that it isn't suitable for every parent or child, and that parents should first seriously question their own willingness and ability to pursue such a project. Home instruction is one of the subjects that illustrates the degree to which the education of children is still recognized by the law to be a societal as well as parental

concern. The courts are making decisions that will have far-reaching effects on education in years to come.

Laws in about half of the states (Ritter, 1979), permit instruction at home by parents, while others permit instruction at home by a certified teacher who may also be the parent. Of course, home instruction is permissible in any state if it meets all the requirements of a private school. It would not be easy for most homes to meet these requirements.

The matter of home instruction primarily depends on the interpretations of state statutes. The courts are giving varying opinions on the cases being tried. In a precedent setting decision in Massachusetts (Ritter, 1979) in November 1978, a judge for the first time held that the standards and procedures the school board used to deny a home-education plan were unconstitutional. The Massachusetts statutes exempt from public school a child who is being otherwise instructed. In Commonwealth v. Roberts, the Massachusetts Supreme Court approved this exemption to include home schooling, given by parents themselves, provided it is given in good faith, and is sufficient in extent. In the only revision of the compulsory attendance statute since Roberts, the legislature retained the "otherwise instructed" language in the law.

The West Virginia compulsory education statute (Zirkel & Gluckman, 1983) has an explicit exemption for home instruction, provided the parent(s) giving the instruction satisfy the county board of education wit regard to (1) their qualifications to teach the required subjects, (2) the duration and nature of the instruction, and (3) the progress of the pupils.

In 1983 the Georgia Supreme Court invalidated the state compulsory attendance law (Pipho, 1984) because of the problems it posed for home study and private schools. S.B. 504 requires Georgia parents and guardians to enroll all children between the ages of 7 and 16 in public, private, or home study programs or be subject to misdemeanor charges and be fined up to $100 per day or spend 30 days in jail.

In Virginia, the Supreme Court (Phi Delta Kappan, 1983) ruled that parents can't evade regulations of home teaching by saying they are running a private school for their children. In Grigg v. Commonwealth, the court decided that although parents believe that the instruction and training the children received at home is equal to or better than the services provided in the public schools, they cannot teach their children at home without state approval. The Court called this excuse, though sincere, legally insufficient.

In Tennessee, after the legislature adjourned in 1984, several truancy charges against home schoolers were dismissed by the courts, which said that the compulsory attendance law is too vague. The law requires school-age children to attend either a public or private school but fails to define a private school.

There were eight states in 1984 that had no language in the statutes to allow home schools. They were Illinois, Minnesota,

New Mexico, Rhode Island, Tennessee, Texas, Washington, and Wyoming.

There were a few states which had language in the law that specifically referred to home education. The Arkansas law said tutoring was not acceptable. Kansas said home education was not acceptable. In New Hampshire, only hardship cases were allowed. Mississippi had no compulsory attendance law. In North Carolina, the Attorney General ruled the use of tutors in the home was not a home school. In North Dakota, the home had to be approved as a private school.

Ten states allow the use of tutors to satisfy the compulsory attendance law, but in Louisiana, the school or tutor must have at least fifty students. Fifteen states allow home schools, but three of then have exceptions in the language. In Kentucky, the definition of "school" allows home school even though it is not spelled out in the law. Maryland allows home schools in rare circumstances. In Michigan, the parents must be certified to teach.

Based on this review of home school literature, home schooling appears to be an idea that has gone full circle. Early education started out this way and the trend, at least for some parents, is going that way again. It should be noted that most of the reasons for home schooling in the past are not the same reasons for the increase in interest at the present.

Many people feel that the education of one's children is an individual matter, and they should be able to provide for it in any way they choose. The real problem is deciding if all parents are concerned with the educational process of their children, or whether they are simply following some selfish motives in not allowing their children to go to traditional schools.

It is hoped that this research will shed some light on the practice and give some insight into how widespread the practice really is in this country.

Research Methodology

The primary purpose of this research was to develop a profile of existing home schools and the families that operate them. A questionnaire was used to gain this information.

Of 301 questionnaires mailed, 199 were returned that were useable. The return percentage of 66.1 percent was relatively high and suggested that the questionnaire was favorably received.

The data were useful in presenting a profile of the families that have conducted home schools or are now conducting one. First, the responses were tabulated, and the frequencies and the percentages were presented in table form. This allowed examination of the distribution of responses. Next, five demographic characteristics were used in preparing contingency tables for the chi square statistic. They were sex, income, education, location of the residents, and the length of time in home schooling.

Findings and Conclusions

Some general statements can be made about the findings. The males responding indicate more of a willingness to challenge the law than females. The more educated the respondent, the greater the implied concern for the moral health of the children and the less importance was placed on the expense involved in private school education.

One of the most valuable findings of this study was a profile of the average American Home School (Figure 1).

Some of the information indicated was:

(1) Most of the respondents are married.

(2) More lived in rural areas and small towns than in urban and suburban areas.

(3) The average educational background was three years of college.

(4) The average length of time children spent in home schooling was 4.88 years.

(5) The number of children being taught in the home school averages 1.95.

(6) The average number of hours spent in formal teaching was 2.22 hours a day.

(7) The average number of hours spent studying in addition to the formal teaching was 1.91 hours a day.

(8) Most of the instructional material used was prepared by the parents themselves.

(9) Most of the families did not have other children in conventional public or private schools, nor do they ever plan to send them.

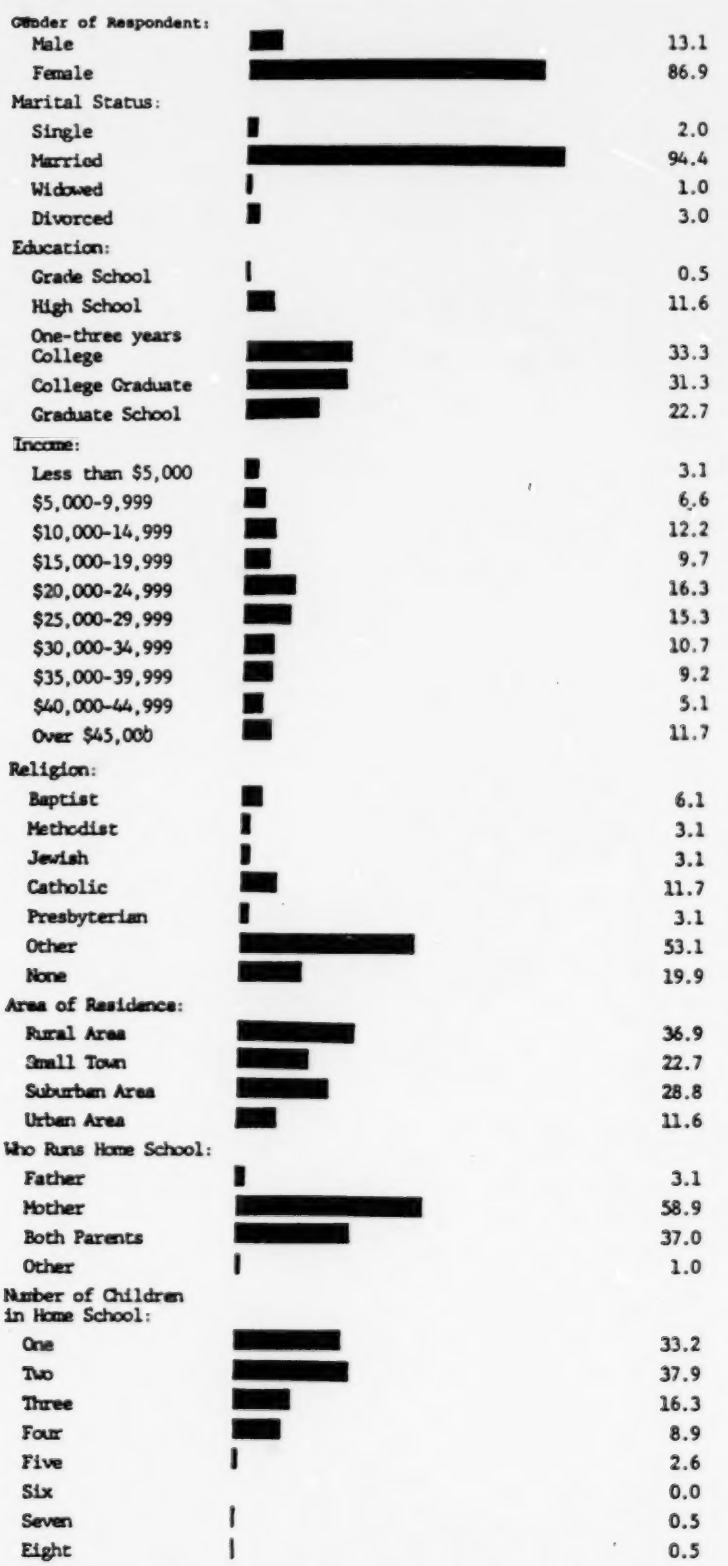
(10) For those who may eventually enter their children in conventional public or private schools, 11-12 years of age was the average best age reported for entry in those schools.

(11) The evidence clearly supported the existence of a single objective of the group of parents that responded, that is, to give their children the opportunity to receive the kind of education the parents think they should have.

(12) Religion did not appear to be significant when parents made the decision to teach their children at home.

(13) The income level of the parents was not a factor in the choice of home schooling instead of traditional schools.

Profile of American Family Home School



Characteristic	Percent
Gender of Respondent:	
Male	13.1
Female	86.9
Marital Status:	
Single	2.0
Married	94.4
Widowed	1.0
Divorced	3.0
Education:	
Grade School	0.5
High School	11.6
One-three years College	33.3
College Graduate	31.3
Graduate School	22.7
Income:	
Less than $5,000	3.1
$5,000-9,999	6.6
$10,000-14,999	12.2
$15,000-19,999	9.7
$20,000-24,999	16.3
$25,000-29,999	15.3
$30,000-34,999	10.7
$35,000-39,999	9.2
$40,000-44,999	5.1
Over $45,000	11.7
Religion:	
Baptist	6.1
Methodist	3.1
Jewish	3.1
Catholic	11.7
Presbyterian	3.1
Other	53.1
None	19.9
Area of Residence:	
Rural Area	36.9
Small Town	22.7
Suburban Area	28.8
Urban Area	11.6
Who Runs Home School:	
Father	3.1
Mother	58.9
Both Parents	37.0
Other	1.0
Number of Children in Home School:	
One	33.2
Two	37.9
Three	16.3
Four	8.9
Five	2.6
Six	0.0
Seven	0.5
Eight	0.5

Recommendations

The following recommendations are drawn from the findings and conclusions:

(1) Local school officials and parents should be aware of the law as it exists in their state.

(2) Local school officials and parents should know the guidelines and follow them completely if home schools are ruled to be legal in their state.

(3) Local school officials should work with home schooling parents if home schools are ruled not to be legal to try to get them back in public schools in order to comply with the law.

This issue is so important to all of us that we should keep well informed of the changes in the laws and the implications they will have for education in general and public school specifically. We must not return to the days when parents were allowed to keep their children at home to work and not receive an adequate education. The primary concern in this country must be the assurance that all children have the opportunity to receive a quality education no matter what the source.

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ANNOUNCEMENTS

Submission for Publication in Home School Researcher (HSR)

HSR welcomes you to submit articles relevant to its purposes (which are stated later). Generally, manuscripts should be typed, double-spaced, and 6 to 16 pages in length. If possible, please follow the guidelines in Publication manual of the American Psychological Association (3rd ed.). Production of HSR will be greatly facilitated if the manuscript is submitted on paper and on 5-1/4" diskette in a format that is compatible with the word processing software WordPerfect (v. 5.0) used with DOS (IBM-compatible) computers. In order for manuscripts to be considered for publication in Volume 5, Number 2, please submit manuscripts by May 31, 1989.

Call for Research Results

If you have any results or are within three months of being able to report on them, please contact HSR.

Annotated Bibliography

The home-centered learning annotated bibliography now contains over 350 entries on 43 single-spaced pages. If you have any additions to make to it, please send them to HSR. It is a tremendous source of information to anyone interested in studying home education. The 1989 cost is U.S. $8.00 (and $5.00 for additional copies).

A Comparison of Home Schooling and Conventional Schooling: With a Focus on Learner Outcomes (July 1986)

A 57-page paper, presented by Brian D. Ray to the Department of Science, Mathematics, and Computer Science Education at Oregon State University, it carefully reviews the literature relevant to the title. It also includes sections entitled "characteristics of home schools," "possible explanations for observed home school outcomes," and "research potentials." The copyrighted paper is available from the editor of HSR for U.S. $8.00 (and $5.00 for additional copies). It is also available through Educational Resources Information Center, ERIC Reproduction Service No. ED 278 489.

Home School Researcher 1989

Home School Researcher is a quarterly publication dedicated to the dispersal of information relevant to the research of home centered learning (or home education or home schooling). The subscription rate for 1989 is U.S. $15.00. Unless otherwise specified by the subscriber, a subscription payment during 1989 is for the four 1989 issues.

HSR Reprints

Reprints of HSR back through the first year of publication, 1985, are available. The cost is $3.00 for the first copy of a particular issue, and $1.50 for each additional copy of that

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SOUTH CAROLINA'S EDUCATION ENTRANCE EXAMINATION: A STUDY OF ITS SUITABILITY FOR USE WITH HOME SCHOOLING INSTRUCTORS

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Introduction

In America today, thousands of children are meeting state compulsory education requirements at home instead of in school. In 1987, 29 states explicitly permitted instruction at home by a parent or tutor, and all of the other states allow home instruction in some form (Lines, 1987). Not only in the United States, but in Canada as well (Common & MacMullen, 1986), home schooling is clearly a growing movement.

The increasing prevalence of home schooling has provided educators with a number of vexing legal issues regarding, for example, the conflict between parents' religious rights and a state's educational interest (Harris III & Fields, 1982; Wendel, Konnert, & Foreman, 1986). One issue that may be receiving more attention relates to the qualifications of home schooling instructors.

In the spring of 1988, the South Carolina Legislature enacted legislation that established requirements for home instruction. Among other things, the law stipulates that home schooling instructors must either (a) have a baccalaureate degree, or (b) have a high school diploma or a GED certificate and attain a passing score on the Education Entrance Examination (EEE). The EEE is a basic skills test in reading, writing, and mathematics created several years ago by the South Carolina Department of Education (SCDE) to ascertain whether prospective teacher-education candidates had basic skills in those three areas. By South Carolina law, students must pass the EEE to be admitted to one of the state's teacher education programs.

Although the EEE was carefully constructed and rigorously appraised in connection with its original function, its suitability for this new, albeit related, function needed to be evaluated. In July 1988, SCDE issued a request for proposals for the appraisal of the EEE for use with home schooling instructors. IOX Assessment Associates (IOX) was awarded the contract.

IOX has conducted numerous test-appraisal studies. Many of those studies have been appraisals of teacher licensure tests, both basic skills tests like the EEE and subject matter tests like the NTE program tests (formerly called the National Teacher Examinations). Over the years, we have developed rigorous, fair, and legally defensible procedures for appraising the suitability of a licensure test for its intended purpose (Carlson, in press). Because of the purpose for which the EEE was to be used, however, the EEE test-appraisal study presented some unique issues that had to be addressed.

This paper briefly describes the rationale for and the procedures used in a typical teacher licensure test-appraisal study. Then, the test-appraisal study of the EEE in South Carolina is summarized. Departures from the typical procedures, as well as other substantive and procedural issues, will be discussed. Finally, the results of the EEE study will be briefly summarized.

Rationale for the Appraisal of Teacher Licensure Tests

The primary activity in test-appraisal studies of teacher licensure tests has been the collection of what is known as "content-related evidence of validity." The American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education, in their joint publication entitled Standards for Educational and Psychological Testing (1985), have described content-related evidence of validity as evidence regarding "the degree to which the sample of items, tasks, or questions on a test are representative of some defined universe or domain of content" (p. 10).

The nature of the "universe or domain of content" has been described in the Uniform Guidelines on Employee Selection Procedures (Equal Employment Opportunity Commission, Civil Service Commission, Department of Labor, & Department of Justice, 1978). The Uniform Guidelines were intended to help employers comply with federal law prohibiting discrimination by race, color, religion, sex, and national origin. Employment decisions such as hiring, licensing, and certification are encompassed within the scope of these guidelines. Close examination of the guidelines reveals that tests used for licensure purposes must be directly job-related. According to these federal guidelines, the universe of content should consist of the knowledge and skills that are necessary for successful performance on the job for which the candidates are to be evaluated. As stated in the Uniform Guidelines, "selection procedures which purport to measure knowledge, skills, or abilities may in certain circumstances be justified by content validity...if that knowledge, skill, or ability is a necessary prerequisite to successful job performance" (Section 14C(1)). This view is echoed in the Standards for Educational and Psychological

Testing, in which it is stated that a "rationale should be provided to support a claim that the knowledge or skills being assessed are required for competent performance in an occupation" (Standard 11.1, p. 64). In short, the knowledge or skills measured by a test that has employment implications should be those that are required for successful job performance.

Typical Test-Appraisal Procedures

The first task in conducting a test-appraisal study is to recruit the individuals who will review the test. For subject-matter tests (e.g., tests in English or science), these are typically teachers in the same subject area as the test. In addition, teacher education faculty are also often invited. To obtain these individuals, nominations are solicited from school district superintendents and deans or chairpersons of teacher education programs. From those nominated, individuals are selected and invited to participate in the test-appraisal study. Selection criteria usually include variables such as ethnicity, gender, and geographic representation.

The selected individuals who agree to participate in a test-review session are asked to independently review test items and make judgments about each item, as well as about the test as a whole. The participants often serve on one of two panels. A content review panel, typically consisting of college faculty, judges the extent to which the content on the test is covered in their teacher education programs. A job relevance panel, typically consisting of teachers, judges the extent to which the knowledge and skills tested are necessary for successful job performance. Both panels may also be asked to review the test for potential bias against examinees on the basis of characteristics such as ethnicity and gender.

Results of this procedure are summarized and reported to a decision-making body, usually the State Board of Education. The results of the test-appraisal study, as well as other factors, are considered in determining whether or not the test is suitable for its intended purpose.

The EEE Study

In planning and implementing the EEE test-appraisal study, we used the same general procedures as those just described. A number of issues, however, specific to evaluating a test to be used with home schooling instructors had to be addressed. These issues, as well as the resulting procedural modifications, will now be described.

Building Cooperation

Teacher licensure tests have been in use in this country for years. Although many teachers are opposed to such tests, they

have become a part of the American educational system. Consequently, most public school educators recognize the importance of test-appraisal studies and are willing to participate.

The use of such tests for home schooling instructors, however, is new--at least in South Carolina. The state's home schoolers' association was strongly opposed to the legislation requiring that some home schooling instructors take the EEE. Thus, the EEE study was conducted in a more highly-charged emotional environment than that typically encountered with a teacher licensure test. Recognizing this, the SCDE took steps to help ensure that the state's home schooling instructors would participate cooperatively in the test-appraisal study.

Early in the planning stages of the EEE test-appraisal study, SCDE officials met with several key representatives of the state's home schoolers' association. The primary purpose of the meeting was to provide home schooling instructors with information regarding all facets of the proposed study, such as general procedures, the study's intent, and the role that home schooling instructors would play in the study. The meeting, however, had several ancillary benefits. It provided SCDE officials with an opportunity to hear, directly, several of the concerns held by home schooling instructors. It also proved useful in gaining the support of the home schooling instructors that may not have been readily attained if such an effort had not been made.

For example, we learned that members of the home schoolers' association had initially decided to refuse to participate in the study if invited. By meeting with home schooling representatives early in the planning stages, SCDE officials were able to emphasize to home schooling instructors the critical role they would play in the study. As a consequence, key members of the home schoolers' association encouraged the participation of all home schooling instructors who were invited to be panelists.

Selection of Participants

A key issue in planning a test-appraisal study is the identification of the appropriate groups of individuals to render the various judgments regarding the test under review. As described earlier, in the past, two primary groups have typically been represented in test-appraisal studies: teachers and college faculty. The college faculty judged the extent to which the skills and knowledge covered on a test are taught in a teacher education program. The appropriateness of collecting such "adequacy-of-preparation" or "opportunity-to-learn" data has been recently challenged, however (Coyle, 1988). Many now agree that the essential element in establishing the defensibility of a licensure examination is the extent to which the tested knowledge and skills are needed for satisfactory job performance. Furthermore, the EEE assesses basic skills in reading, writing, and mathematics. Such skills are most commonly taught in

elementary and secondary school, not in college teacher education programs. For these reasons the SCDE decided to convene one test-review panel that would supply judgments regarding the job-relatedness of the EEE. Judgments regarding adequacy-of-preparation would not be collected.

With that issue settled, the next issue was the identification of individuals to participate on the job-relatedness panel. Clearly, judgments regarding a test's job-relatedness should be made by individuals who are familiar with the job demands required of the educators who must take the test (Yalow, 1983). The EEE was being proposed for use in qualifying home schooling instructors. Thus, one might argue that the review group should consist of individuals who currently serve as home schooling instructors, because they are most familiar with the demands of educating children in the home. One could also argue, however, that the job demands of a home schooling instructor in the basic skill areas of reading, writing, and mathematics are similar to those of public school educators. This would suggest that public school teachers, administrators, and teacher educators should be included as well.

In identifying which groups to include in the EEE study, we faced an interesting paradox. Certainly, home schooling instructors are in an excellent position, perhaps better than any other group, to identify the knowledge or skills necessary for satisfactory performance by a home schooling instructor. At the same time, however, many, if not all, South Carolina home schooling instructors are strongly opposed to the recently enacted home schooling legislation. As a consequence, it was thought that home schooling instructors might use the test-review opportunity to register their disapproval by rendering unduly negative appraisals of the test's content.

This concern is not one-sided, however. A similar issue arises when one considers the inclusion of public school faculty. Many public educators are not supportive of the home schooling movement. Consequently, they may also use the opportunity to manifest their biases by expressing overwhelming support of the test regardless of its relevance to the tasks of a home schooling instructor.

In an effort to minimize the chances of one group biasing the results, the SCDE decided to include representatives from three relevant groups, namely, home schooling instructors, public school teachers and administrators, and university faculty from teacher education programs. SCDE officials decided that home schooling instructors should constitute at least half of the panel, and that there should be about twice as many public school faculty as university faculty. By including multiple categories of reviewers it was hoped that members of the various groups would recognize that they were not the sole judges of the test's suitability and, hence, would be less likely to provide biased ratings.

Recruitment of Panelists

Nominations of qualified individuals were secured by sending nomination forms to deans or chairpersons of approved teacher education programs and superintendents of public school districts in the state, including districts that currently have home schooling instructors.

Deans or chairpersons were asked to nominate faculty members who had at least two years of experience teaching courses that were part of a teacher preparation program and that focused on elementary or secondary teaching methods. District superintendents were asked to nominate home schooling instructors who had baccalaureate degrees and at least one year of experience as home schooling instructors, and/or two teachers and two principals each with at least two years of experience.

From those individuals nominated, selections were made such that there would be individuals on the panel from small, mid-size, and large districts, and from the various regions within the state. In addition, both black and white educators were selected, as were both males and females. The selected individuals were invited, by mail, to participate in the test-appraisal study.

The Test-Review Session

A total of 33 South Carolina educators participated in the study: five college faculty members, 11 public school faculty members, and 17 home schooling instructors. The panel session was held in Columbia, South Carolina, on December 8, 1988. Following opening remarks, panelists were given time to read written directions that described the judgments they were to make. Then, oral directions were read that included a summary of the more detailed written directions that the panelists had read. After panelists' questions were answered, the test forms were distributed.

Each panelist received one form of the EEE, which consisted of 56 multiple-choice reading items, 56 multiple-choice mathematics items, and two writing assignments (called writing prompts). (During a test an examinee is to respond to only one of the two writing prompts.)

All panelists completed their review tasks independently. The primary charge to the panelists was to judge the extent to which the knowledge and skills covered on the EEE are necessary prerequisites for satisfactory performance as a home schooling instructor in South Carolina. Specifically, panelists were asked to make four kinds of judgments. For each test item and writing prompt on the test form being reviewed, panelists were to respond "yes" or "no" to both a task-relatedness and an absence-of-bias question. The task-relatedness question for the reading and mathematics items was as follows:

"Is the knowledge or skill needed to answer this item a necessary prerequisite for satisfactory performance by a home-schooling instructor in South Carolina?"

For the writing prompts, this question read:

"Is the knowledge or skill needed to write an acceptable composition in response to the prompt a necessary prerequisite for satisfactory performance by a home-schooling instructor in South Carolina?"

The absence-of-bias question was the following:

"Might this item (or writing prompt) offend or unfairly penalize any group of examinees on the basis of personal characteristics such as gender, ethnicity, religion, or socioeconomic status?"

The panelists were also asked to respond to a content-representativeness question for each of the three sections on the test, that is, reading, mathematics, and writing. After reviewing each section, panelists answered the following question by providing a percentage estimate between 0 and 100 percent rounded to the nearest 10 percent:

"What percentage of the (reading, mathematics, or writing) knowledge and skills needed by a home-schooling instructor in South Carolina is covered on this test form?"

After having reviewed the entire set of items on the test, panelists were asked to make the following overall absence-of-bias judgment:

"Considering the entire set of test items that you just reviewed, do the items, taken as a whole, offend or unfairly penalize any group of examinees on the basis of personal characteristics such as gender, ethnicity, religion, or socioeconomic status?"

Finally, panelists were given an opportunity to register (in writing) any comments or concerns regarding the proposed use of the EEE with home schooling instructors.

Separating Emotions from the Judgments

During the planning stages of the EEE study, it became imminently clear that the legislation underlying the study was emotionally charged. As mentioned previously, home schooling instructors did not support the legislation, while many public school educators did.

It was believed that these underlying emotions could interfere with the panelists' abilities to make fair judgments regarding the test's content. Two steps were taken to address this issue. First, we acknowledged the emotions at the beginning of the review session and, at the same time, encouraged participants to try to separate their emotions regarding the legislation from the judgments they were being asked to make. Clearly, we did not expect the panelists to simply dismiss their deep-felt sentiments regarding the broader issue. We believe, however, that by addressing the underlying emotions rather than

ignoring them, we were able to reduce the likelihood of biased ratings by panelists.

Second, as mentioned above, all panelists were given an opportunity to register (in writing) any concerns or comments regarding the proposed use of the test. Participants were informed at the outset that their written comments would be forwarded to the State Board along with the study results. It was hoped that, given this opportunity to express their opinion about the use of the EEE with home schooling instructors, the participants would be more inclined to give the test a fair review.

Data Analysis

A number of indices were computed based on the judgments about each item, only one of which will be described here. For each item, a per-item score was computed based on the number of "yes" and "no" responses given for that item. For the task-relatedness question, the per-item score is the percentage of panelists who responded "yes" to the item. For the absence-of-bias question, the per-item score is the percentage of panelists who responded "no" (indicating a lack of bias) to the item. Then, for the reading and mathematics sections of the test, an average per-item score was computed by calculating the mean of the per-item scores. On the writing section of the test there are two prompts and examinees select one; thus, only the per-item scores were computed, not the average.

In addition to individual item judgments, panelists also made judgments regarding each of the three sections of the EEE. The panelists were asked to estimate, from 0 to 100, the percentage of content needed by home schooling instructors that was covered on the test being reviewed. These responses were averaged to obtain a content-representativeness mean percentage for each of the three test sections. Panelists were also asked to make a bias judgment regarding the entire set of items. The percentage of panelists responding either "yes" or "no" to this question was computed.

Results

In general, the results were positive, with one notable exception. The task-relatedness average per-item scores for reading and mathematics were approximately 84 and 79, respectively. The per-item score for the first writing prompt was 65, and the per-item score for the second prompt was 71.

The average absence-of-bias scores were approximately 91 and 96 for reading and mathematics, respectively. The absence-of-bias score for the first writing prompt was 44; the score for the second prompt was 91. For the overall bias judgment, approximately 75% of the panelists indicated that the test as a whole (that is, all three sections considered together) is free of bias. The mean percentage estimates of content-

representativeness for reading, mathematics, and writing were approximately 75, 77, and 71, respectively.

All these results are positive, with the exception of those for the first writing prompt, which received a task-relatedness score of 65 and an absence-of-bias score of only 44. This writing prompt was designed to elicit a writing sample about a topic relevant to public schooling, which was apparently judged not to be relevant for home schooling instructors. The other prompt, which received more positive results, was about a more general topic. As pointed out earlier, however, examinees can choose the prompt to which they will respond.

Board Approval of the EEE

The study results were presented to the South Carolina Board of Education at a Board meeting in February 1989. At that meeting the Board approved the use of the EEE with home schooling instructors.

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Home School Researcher Vol. 5, No. 2, 1989, p. 11-14

REASONS FOR SELECTING HOME SCHOOLING IN THE CHATTANOOGA, TENNESSEE VICINITY

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Purpose and Hypothesis

The purpose of this project was to establish clear, specified reasons why parents in the Chattanooga, Tennessee vicinity home educate their children. It was hypothesized that home school parent/teachers desire to effectively develop their children in all the different aspects of life, including the mental, social, spiritual, and physical.

Instrument and Population

The questionnaire instrument had on it's first page 35 numbered reasons for selecting home schooling. The reasons are listed in Table 1. The home school parent/teacher could check any of the reasons that applied. The second page of the questionnaire asked the home school parent/teacher to list the first and second reasons which were most important to them in determining why they chose the "home school option." The second question on the second page asked, "Why did you not choose to educate your child or children at a private school?"

Approximately 300 questionnaires were sent out concerning this research. Over one hundred were returned. Only one hundred responses were chosen for this research, selecting those who either lived in the city of Chattanooga or within a hundred mile radius of Chattanooga, Tennessee. Responses from those who lived more than 100 miles from Chattanooga, and responses from those who lived outside of the state of Tennessee were not utilized.

Descriptive Information: Divisional Breakdown

The results were tabulated according to four divisions: mental, physical, social, and spiritual. This was specifically designed by the researcher based on Luke 2:52 of the Bible which states, "And Jesus increased in wisdom, and stature, and in favor with God and man." Thirty-three reasons comprised these four categories. Reasons numbered 11, 18, 19, 21, 22, 27, 28, 31, and 33 were classified as mental; the physical category was comprised of reasons 4, 10, 17, and 23; the spiritual reasons were 1, 3, 5,

6, 7, 12, 29, and 30; the reasons under the social category were 2, 8, 9, 13, 14, 15, 16, 20, 24, 25, 26, and 32. The remaining two reasons were open ended.

1. To teach my children about God and the Bible
2. To be with my children through the day
3. Religious reasons
4. For financial reasons
5. Did so under the leading of the Holy Spirit
6. Decided to after praying about it
7. In obedience to God's Word (Deuteronomy)
8. Fear of public school corruption
9. To enhance family relationships
10. Private schools are now too expensive
11. No private school with curriculum we desire
12. Private schools do not hold to our religious beliefs
13. Drugs too heavy in the public schools
14. Too much illicit sexual behavior in public schools
15. Overall low standards of teachers in public schools
16. Overall low standards of pupils in public schools
17. Economic reasons (to save money)
18. Public school teachers lack of motivation
19. Illiteracy in the public schools
20. Excessive peer pressure in public schools
21. Able to individually assist my children in their studies
22. Freedom to teach children things we feel are important
23. Convenience in teaching them at home
24. Low standards among our educational leaders
25. For my child's overall general protection
26. Higher quality of peers through home education association families
27. Better opportunities to select curriculum
28. Wrong philosophies being taught in public schools
29. Humanism, New Age Movement, other false religions being pushed in public schools
30. Creation is not taught; evolution accepted as fact in public schools
31. No strong voice within our local educational government
32. Sex education (social hygiene) taught in public schools
33. Poor track record of our local schools in reading, writing, arithmetic, etc.
34. Other_____
35. Other_____

Table 1. Reasons for selecting home school.

The mental reasons were any that connected with the learning, intellect, capacity, or instruction concerning the child. Included in this category were also concerns pertaining to curriculum, and the motivational and illiteracy problems within the schools.

Social reasons included parents wanting to be with their children throughout the day, desires to enhance family relationships, moral problems in the schools, including drugs, alcohol, illicit sexual behavior, and excessive peer pressure.

Physical reasons were narrowed to only include distances from school, financial reasons for choosing to home school, and convenience in teaching the children at home.

The religious reasons category was broken into more detail than it has been in most research to date. For instance, there was the "religious reasons" section that could be checked so any

parent of any different religion could check this as a general reason, spiritually speaking. Other reasons were allowed, such as (1) "to be able to teach my children about God and the Bible; (2) "under the leading of the Holy Spirit", (3) " in obedience to Deuteronomy [in the Bible]", and (4) "humanism, New Age Movement, evolution, and wrong philosophies" in the schools.

Findings

The first page of the questionnaire listed 35 reasons for selecting home schooling, from which the group of 100 could check any that applied. Forty-two percent named various social reasons for home schooling their children. Twenty-seven percent checked spiritual reasons, 24% checked mental reasons, and 7% checked physical reasons.

As a group, these 100 parent/teachers listed spiritual reasons as the most important reason for electing to home educate their children. Forty-eight percent of them checked spiritual reasons as their primary reason (Table 2).

	Reasons				
Rank	Spiritual	Social	Mental	Physical	No Reply
First Reason	48%	21%	28%	3%	0%
Second Reason	26%	21%	25%	8%	20%

Table 2. First and second most important reasons for selecting home schooling.

Their second most important reason was almost a three way tie, with mental (or cognitive) related reasons named by 25% of the group, spiritual reasons by 26% of the respondents, and 21% chose social reasons. Eight percent listed physical reasons as their second most important reason for home schooling. In terms of the second most important reason, the social area was named by 21% of the group, mental reasons by 28%, and physical reasons given by 8% of the respondents.

Eight different reasons were included in the spiritual category. With respect to these eight reasons, 80% of the subjects indicated they chose home school in order to teach their children about God and the Bible. Over 60% indicated they home schooled due to each of the reasons which included (a) the leading of the Holy Spirit, (b) after praying about it, (c) humanism, the New Age movement, and other false religions being pushed in the public schools, and (d) creation not being taught (or evolution being taught as fact in the public schools). About 58% said they were home schooling in obedience to God's word (Deuteronomy), about 51% were home schooling due to religious reasons in general, and about 13% did so because private schools do not hold to their beliefs.

The questionnaire also asked an open-ended question concerning why the parent/teachers did not select private schools. Thirty-seven respondents listed the high cost of private schools, yet they also went on to say that they would not have chosen private schools anyway. The most frequently cited reasons for not having their children attend private schools were (a) too expensive - 27 respondents, (b) peer pressure problems - 23, (c) need for (or desire for) more specialized or individualized instruction - 22, (d) private schools the same (or have the same) problems as public schools - 15, (e) too many hours away from home - 10, (f) private schools are lacking in quality - 9, (g) moral problems in the private schools - 7, (h) no private schools in respondent's area - 7, (i) desire to develop my children emotionally, socially, physically, academically, and spiritually - 7.

Conclusions

The findings matched the researcher's general expectations. That is, home school parent/teachers desire to effectively develop their children in all the different aspects of life (i.e., mental, social, spiritual, and physical). The element of surprise in this research was the various comments made concerning private schools. Largely, the comments were negative, with very few stating they would send their children to private schools. The parents who home educate their children indicated that neither private schools nor public schools meet the desires of concerned parents who wish to better develop their children socially, mentally, physically, and, in particular, spiritually.

ANNOUNCEMENTS

Submission for Publication in Home School Researcher (HSR)

HSR welcomes you to submit articles relevant to its purposes (which are stated later). Generally, manuscripts should be typed, double-spaced, and 6 to 16 pages in length. If possible, please follow the guidelines in Publication manual of the American Psychological Association (3rd ed.). Production of HSR will be greatly facilitated if the manuscript is submitted on paper and on 5-1/4" diskette in a format that is compatible with the word processing software WordPerfect (v. 5.0) used with DOS (IBM-compatible) computers. In order for manuscripts to be considered for publication in Volume 5, Number 3, please submit manuscripts by August 31, 1989.

Call for Research Results

If you have any results or are within three months of being able to report on them, please contact HSR.

Annotated Bibliography

The home centered learning annotated bibliography now contains over 350 entries on 43 single-spaced pages. If you have any additions to make to it, please send them to HSR. It is a tremendous source of information to anyone interested in studying home education. The 1989 cost is U.S. $8.00 (and $5.00 for additional copies).

A Comparison of Home Schooling and Conventional Schooling: With a Focus on Learner Outcomes (July 1986)

A 57-page paper, presented by Brian D. Ray to the Department of Science, Mathematics, and Computer Science Education at Oregon State University, it carefully reviews the literature relevant to the title. It also includes sections entitled "characteristics of home schools," "possible explanations for observed home school outcomes," and "research potentials." The copyrighted paper is available from the editor of HSR for U.S. $8.00 (and $5.00 for additional copies). It is also available through Educational Resources Information Center, ERIC Reproduction Service No. ED 278 489.

Home School Researcher 1989

Home School Researcher is a quarterly publication dedicated to the dispersal of information relevant to the research of home centered learning (or home education or home schooling). The individual subscription rate for 1989 is U.S. $15.00. Unless otherwise specified by the subscriber, a subscription payment during 1989 is for the four 1989 issues. The institutional rate for 1989 is $25.00.

HSR Reprints

Reprints of HSR back through the first year of publication, 1985, are available. The cost is $3.00 for the first copy of a

particular issue, and $1.50 for each additional copy of that issue. (An index for the issues from 1985 through 1988 is available for $1.00.)

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UNDERSTANDING PUBLIC, PRIVATE, AND HOME SCHOOL STUDENTS' BELIEFS, ATTITUDES, AND INTENTIONS RELATED TO SCIENCE LEARNING

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The purpose of this study was to collect information about the determinants of grades 3 to 8 students' behavior with respect to laboratory and non-laboratory science learning activities. A particular focus of this study was to ascertain whether the type of schooling (i.e., public, private, or home) had any effect on students' beliefs about doing science activities, and thus intentions, to engage in science learning activities. More specifically, the purpose of the study was to answer the following questions by using the theory of reasoned action (Fishbein & Ajzen, 1975; explained later in this paper): (1) What are the salient beliefs of students with respect to engaging in laboratory and non-laboratory activities?, (2) What are the correlations between adjacent components in the theory of reasoned action?, (3) What are the relative weights of the immediate determinants (i.e., attitude toward the behavior and subjective norm) of student intention to engage in science learning behaviors, and (4) Is there a relationship between the external variable of type of schooling (i.e., public, private, and home) and student intentions to do science?

Conceptual Framework

The general aim of science education is to effect behavioral changes in learners such that they exhibit evidence of increasing scientific literacy. Various constructs that can be evaluated via observation of specific behaviors (which a student should exhibit after instruction) have been delineated and are targeted by science educators (Collette & Chiapetta, 1984; National Science Teachers Association, 1982). At this time, it appears there is a dearth of information regarding the determinants of children's intentions to engage in science learning behavior. Science educators need to know what determines a youth's intentions and behavior with regard to engaging in science learning activities. Knowledge of the determinants would inform science educators as to how they might better ensure that young people will participate in science activities. More relevant and controlled experiments could then be conducted.

Various authors (Haladyna, Olsen, & Shaughnessy, 1983; Koballa & Crawley, 1985; Linn, 1987; Zeidler, 1984) have recently called for sound, theoretical approaches to science education research, particularly in the area of attitudes. Such approaches are the ones most likely to make a significant and positive impact on learner behaviors. Along this line of thought, it is reasonable to assume that an understanding of the determinants of science learning behaviors is needed in order to develop an effective plan for changing the target behaviors.

Theory of Reasoned Action

There is substantial evidence to suggest that the construct most closely associated with the determination of behavior is behavioral intention (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Fishbein and Ajzen have developed the "theory of reasoned action" which deals with behavioral intention and its determinants. The theory has recently generated considerable discussion among science educators (National Association for Research in Science Teaching, 1988) and has been used in science education research (Koballa, 1986, 1988; Ray, 1989a, 1989b, in press; Stead, 1985).

The theory of reasoned action has proven useful in understanding the precursors of intention. The model is founded on the assumption that most socially relevant actions are under volitional control, and a person's intention to perform a behavior is the immediate determinant of the action (Ajzen & Fishbein, 1980). The paradigm's main use is the prediction and understanding of behavior and its determinants. It is theorized " . . . that people use the information available to them in a reasonable manner to arrive at their decisions" (Ajzen & Fishbein, 1980, p. 244) regarding particular behaviors. The information a person has serves as the basis of his or her beliefs.

The model can be represented by three equations (Fishbein & Ajzen, 1975):

$$(1) \quad B \approx BI = w_1(A_b) + w_2(SN)$$

$$(2) \quad A_b = \sum_{i=1}^{n} b_i * e_i$$

$$(3) \quad SN = \sum_{j=1}^{m} nb_j * mc_j$$

The model displays that the intention (BI) to perform a certain behavior (B) is a function of the weighted (w_1) attitude toward performing a behavior (A_b) and the weighted (w_2) subjective norm (SN) (eq. 1). Ergo, a behavioral intention consists of a personal and social component.

Attitude toward the behavior is the individual's feelings about performing the behavior. It is a function of the beliefs (b_i) about expected consequences or outcomes of the behavior and the evaluations (e_i) of these outcomes. Attitude toward behavior can be measured directly by asking the person to rate the performance of the behavior on a scale, or it can be measured indirectly by summing salient attitudinal belief scores (i.e., $b_i * e_i$ scores) (eq. 2).

Subjective norm is the person's perception of the pressures by important others, or referents, to perform the specific behavior. It is a function of normative beliefs (nb_j), or who might want them to perform the behavior, and the motivations to comply (mc_j) with the referents. As for the personal component, subjective norm can be measured directly, or indirectly by summing salient normative belief scores (i.e., $nb_j * mc_j$ scores) (eq. 3).

The theory of reasoned action also considers the construct of external variables (e.g., demographic variables). The theory contends that external variables are related to behavior only if they are related to one or more of the variables within the theory (Ajzen & Fishbein, 1980). The authors of the theory have explained a number of ways that the relation between an external variable and behavior can be mediated (Ajzen & Fishbein). Figure 1 symbolizes the model.

The theory of reasoned action has been used to investigate a wide variety of behaviors such as fogging, voter decision making, and preservice elementary teachers' intentions to use hands-on science activities with students (Bowman & Fishbein, 1978; Hom & Hulin, 1981; Koballa, 1986, 1988; Lin, 1987; Riddle, 1987; Stead, 1985). The theory might also be successfully used to generate valid and reliable baseline information and understanding concerning the determinants of children's intentions to engage in science learning behaviors.

Selected External Variables

A growing phenomenon in educational choices is home education, with estimates of up to one million students being involved (Knowles, 1988). The position of some (e.g., National Education Association, 1988) is that children will not become properly educated if they are educated by their parents who are not state certificated teachers. That is, they need teachers formally prepared in pedagogical method and content. On the other hand, evidence indicates that the academic achievement of the home educated is generally equal to or better than that of their conventional school peers (Ray,

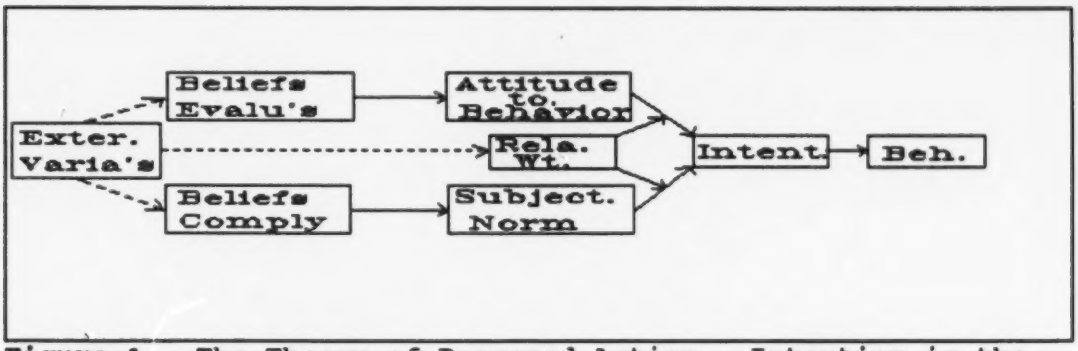

Figure 1. The Theory of Reasoned Action. Intention is the immediate determinant of Behavior, while Attitude Toward the Behavior and Subjective Norm combine as the determinants of Intention.

1988). More specifically, there is evidence that the home educated are not at a cognitive disadvantage in terms of their science education (Quine & Marek, 1988; Wartes, 1989). Since the goal of science educators is to assure the scientific literacy of all citizens, it would be helpful to gather information on this significant group of science learners at home.

Knowledge and understanding of young students is particularly important because many lose interest in science or their perceptions of science degenerate during grades 4 to 8 (Linn, 1987; Yager & Penick, 1986). In a similar vein, Talton and Simpson (1986) pointed out that "As more is understood concerning how adolescent students form attitudes toward science, policy changes can be made that will affect curriculum and instruction in science in American schools" (p. 366). Understanding the effects of grade level (particularly grades 3 to 8) on intentions to do science may lead to more logical ways of changing behavior. Grade level would be considered as an external variable in the theory of reasoned action and relevant data were collected. (Its effect will not be analyzed in this report, however.)

Summary

Science educators need information that would be useful in changing science learners' ideas (Linn, 1987). The procured baseline knowledge and understanding about beliefs and intentions related to science learning behavior could then be used to develop and execute experimental research. That is, results of initial research might be used, for example, to inform a behavioral change method such as Hovland's persuasive communication approach (Martin, 1985; Shrigley, 1983) or Lewin's group dynamics approach (Shrigley). As Shrigley noted, " . . . science educators interested in modifying attitudes can expect an accompanying change in behavior" (p. 431).

Method

This study was designed to be exploratory, to generate baseline information, and to use correlational analyses. The study progressed in three stages. Stage I involved (1) selection of students, (2) elicitation interviews with students, and (3) construction of the instruments. Stage II was a pilot study including (1) development of procedures for administering the instruments and (2) review/revision of instrumentation after collecting data from a sample. Stage III involved (1) final data collection and (2) the analysis of data.

The population consisted of grades 3 to 8 public, private, and home school children in the mid-Willamette Valley region of Oregon. Selection by school district administrators and random selection

via multistage cluster sampling (Borg & Gall, 1983) was used to determine the classes of public school students that were used in the study. One Christian school in the region readily agreed to participate. Home school support group networks were used to solicit a sample for participation in the study. A sample of 226 subjects (n = 187 public, 22 private, 17 home) was used for investigating the laboratory behavioral intention and 231 subjects (n = 190 public, 24 private, 17 home) were used for investigating the non-laboratory behavioral intention in Stage III of the study. (These two intentions are discussed later.) About 20% (n = 90; 72 public, 12 private, 6 home) of these students were randomly selected and interviewed in Stage I in order to elicit their salient attitudinal and normative beliefs. The responses of the public school students were quantitatively and subjectively analyzed according to the protocol of Ajzen and Fishbein (1980) in order to categorize them for later development of the instrument. The responses of the private and home school students were subjectively compared to those of the public school students in order to determine whether adjustments should be made in terms of which items should be included in the final instrument. A group of classes and students, completely separate from the primary sample, was randomly selected from the involved public schools for the pilot study.

The behavioral intention items for the laboratory and non-laboratory instruments were worded with special attention given to the elements of action, target, context, and time. The laboratory intention was "I plan to do the science projects and science experiment my teacher asks me to do." The non-laboratory intention was "I plan to do the science reading and science writing my teacher asks me to do." The instruments not only stated the preceding intentions, but also defined for the subjects the differences between laboratory and non-laboratory science activities. Students were randomly assigned to either the laboratory group or the non-laboratory group. The procedures of Ajzen and Fishbein (1980) were followed for elicitation sessions with students and for developing the instruments. Validity was assured via adherence to the theory of reasoned action and the instrument construction procedures proposed by the theory's authors (Ajzen & Fishbein). The content validity of the item scales was also evidenced by their correspondence with the behavioral criteria of action, target, context, and time (Ajzen & Fishbein; Koballa, 1986). It was assumed that the subjects were willing and able to report accurately on the concepts represented by the items on the instruments; this enhances the instrument's reliability. Familiar and standard methods of calculating instrument reliability (e.g., test-retest, split-half, and Cronbach's alpha) were not appropriate for use in this study. The readability of the instruments was ascertained via the Fry method (Minnesota Educational Computing Consortium, 1982; Klare, 1974-1975) and adjusted to increase their readability for the subjects. Stage II was a pilot study, involving 102 students, during which procedures for administration of the instrument were developed. The final instruments were administered in Stage III to 377 students during a three-week period in the fall of the year. Alpha was set at .10 for statistical analyses in this exploratory study and Statgraphics, version 2.1 (Statistical Graphics Corporation, 1986) was used for executing the analyses.

Findings

Concerning laboratory science, eleven behavioral beliefs accounted for 79.7% of the public school subjects' responses (Table 1) and six normative beliefs accounted for 79.1% of their responses (Table 2). Concerning non-laboratory science, eight behavioral beliefs accounted for 80.5% of the public school subjects' responses (Table 3) and seven normative beliefs accounted for 89.7% of their responses (Table 4). (The only apparent difference in elicited beliefs between types of schooling was that the private and home school students mentioned God two to three times more frequently, with respect to normative beliefs, than did the public school students.) With laboratory behavioral intention as the dependent variable and attitude toward behavior and subjective norm as independent variables, the adjusted coefficient of multiple determination (R^2 = .14) was significant, $F(2, 219) = 18.56$, n = 222, p = .00 (Figure 2). With non-laboratory behavioral intention as the dependent variable and attitude toward behavior and subjective norm as independent variables,

Number	BELIEF that Doing Science Projects and Science Experiments:	Freq.	%	Cum. %
1	causes me to learn	31	19.6	19.6
2	causes me to have fun with science and enjoy science	21	13.3	32.9
3	allows me to do science activities and experiments	12	7.6	40.5
4	causes me to get good or better grades	11	7.0	47.5
5	causes me to have to do work on science assignments	11	7.0	54.4
6	causes me to be confused and not understand science	8	5.1	59.5
7	causes me to think of how a science experiment will turn out	7	4.4	63.9
8	causes me to be interested and not bored	7	4.4	68.4
9	causes me to have an experiment work well	6	3.8	72.2
10	causes me to dissect animals and touch their parts	6	3.8	75.9
11	causes dangerous things to happen	6	3.8	79.7
	various idiosyncratic beliefs	32	20.2	100.0
	Total	158		

Table 1. Modal Salient Behavioral Beliefs for Laboratory

the adjusted coefficient of multiple determination (R^2 = .27) was significant, F (2, 226) = 42.89, n = 229, p = .00 (Figure 3). The relative weight of the attitude toward behavior was greater (though not statistically analyzed) than the relative weight of the subjective norm for both laboratory and non-laboratory intentions. All of the correlations between the various other adjacent constructs in the theory were significant for both of the studied behaviors.

A three-way analysis of variance was executed to determine the effect of type of school on intentions. (The other two factors are not reported on in this paper, and there was no significant interaction between type of school and the other two factors.) In terms of laboratory science, there was a significant relationship between the external variable of type of school and the group of behavioral beliefs/evaluations of outcomes, F (2, 191) = 3.38, p = .04. A multiple comparison test revealed that the mean for home school students was greater than the means of both public and private school students (Table 5). In terms of non-laboratory science, there was no significant relationship between type of school and the other constructs in the theory of reasoned action, F (2, 196) = .76, p = .47.

Number	Normative BELIEF (or Referent)	Freq.	%	Cum. %
1	parents	41	37.3	37.3
2	teacher	18	16.4	53.6
3	brothers or sisters	8	7.3	60.9
4	grandparents	7	6.4	67.3
5	friends	7	6.4	73.6
6	God	6	5.4	79.1
	various idiosyncratic beliefs	23	20.9	100.0
	Total	110		

Table 2. Modal Salient Normative Beliefs for Laboratory

Number	BELIEF that Doing Science Reading and Science Writing:	Freq.	%	Cum. %
1	causes me to learn	22	19.5	19.5
2	causes me to have fun with science and enjoy science	17	15.0	34.5
3	allows me to become someone who uses science in their job	14	12.4	46.9
4	causes me to get good or better grades	10	8.8	55.8
5	causes me to think about science activities and experiments	9	8.0	63.7
6	causes me to do questions that are difficult and hard to understand	7	6.2	69.9
7	causes me to do more writing	6	5.3	75.2
8	causes me to have to do work on science assignments	6	5.3	80.5
	various idiosyncratic beliefs	22	19.5	100.0
	Total	113		

Table 3. Modal Salient Behavioral Beliefs for Non-Laboratory

Number	Normative BELIEF (or Referent)	Freq.	%	Cum. %
1	parents	36	37.1	37.1
2	teacher	12	12.4	49.5
3	grandparents	11	11.3	60.8
4	relatives	11	11.3	72.2
5	brothers or sisters	7	7.2	79.4
6	friends	5	5.2	84.5
7	God	5	5.2	89.7
	various idiosyncratic beliefs	10	10.3	100.0
	Total	97		

Table 4. Modal Salient Normative Beliefs for Non-Laboratory

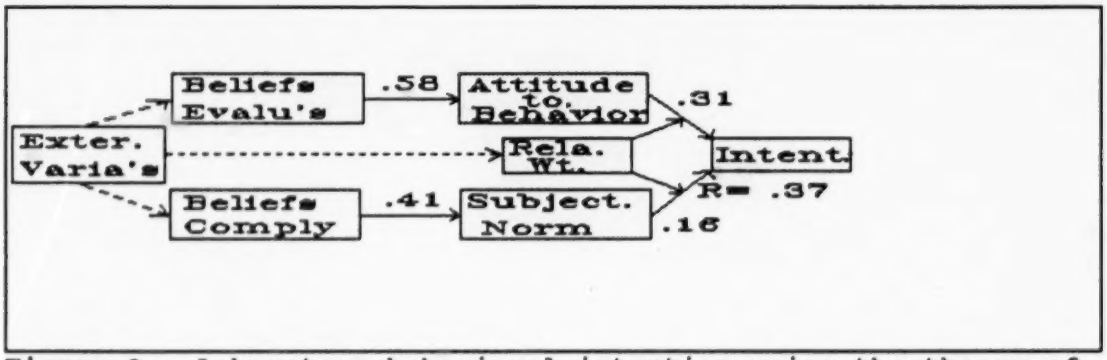

Figure 2. Laboratory behavioral intention using the theory of reasoned action. All correlations were significant, $p < .05$.

Type of School	Σ b*e mean	Multiple Comparison
Home	26.3	*
Public	19.1	*
Private	14.4	*

Table 5. Means and post hoc multiple comparison for beliefs about and evaluations of outcomes for laboratory science activities. Mean for home school students was significantly higher than the other two, $p < .05$.

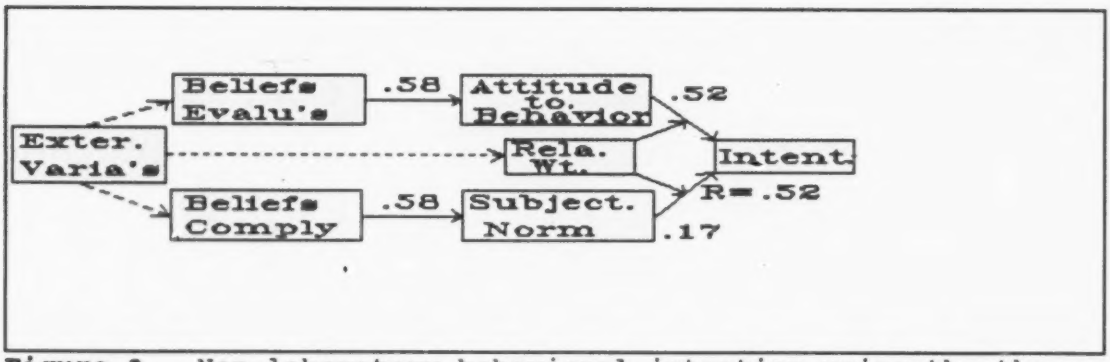

Figure 3. Non-laboratory behavioral intention using the theory of reasoned action. All correlations were significant, $p < .05$.

Conclusions

Young science learners' beliefs, which theoretically determine their intentions and actual science learning behavior, were identified. The theory of reasoned action explains that students' beliefs determine their attitude toward the specified behaviors and their subjective norm with respect to the specified behaviors. Six of the beliefs (e.g., causes me to learn and causes me to have fun) about outcomes of doing laboratory science were identical or very similar to beliefs about outcomes of doing non-laboratory science. The six normative beliefs (e.g., parents and teacher) for laboratory were included in the seven for non-laboratory.

This study has provided theory-generated baseline information regarding the beliefs of laboratory and non-laboratory science learners. Home educators, elementary school teachers who include science in their classrooms, and science teachers could be informed of the cores of salient attitudinal beliefs and normative beliefs of these young science learners. Researchers might use this information to design experimental studies to test the effects of influencing salient beliefs and, ultimately, actual science learning behavior.

Research might also be directed toward using the theory of reasoned action or other theoretical models to understand why the external variable of type of school had a significant impact on students' beliefs. Investigators might explore the environment of the home school in order to determine why home educated students appear to have such a positive attitude toward learning science and appear to achieve quite well in science (e.g., Quine & Marek, 1988; Wartes, 1989). For example, Keeves (1975) identified the home, the school, and the peer group as the three major classes of non-personal variables which influence student achievement. Schibeci (1989) considered Keeves' variables and presented a model suggesting that "home background" influences three sets of student variables (i.e., entry behaviors, early outcomes, and final outcomes). These three sets of student variables are related to initial science-related attitude, general attitude, and final science-related attitude, respectively. It is notable that within the home education milieu Keeves' three variables (home, school, and peer group) are, to a great degree, collapsed into one. Keeping this fact in mind, Coleman and Hoffer's (1987) construct of social capital, and its relationship to physical capital and human capital, might be germane.

Coleman and Hoffer (1987) explained that physical capital takes the form of tools, machines, and other productive equipment (e.g., computers and microscopes in the schools). Human capital has to do with developing skills and capacities in people to make them more productive (e.g., skills and knowledge acquired by an individual in school). Social capital is even less tangible than human capital

and it "... exists in the relations between persons" (Coleman & Hoffer, p. 221). Coleman and Hoffer presented trust as a form of social capital. "A group within which there is extensive trustworthiness and extensive trust is able to accomplish much more than a comparable group without that trustworthiness and trust" (Coleman & Hoffer, p. 221). They give evidence that even if families possess high levels of human capital, the children may be at an academic disadvantage if there is little social capital in the family. This low level of social capital might be caused by the physical absence of family members (i.e., a "structural deficiency") or the absence of strong relations between children and parents (i.e., a "functional deficiency").

Coleman and Hoffer (1987, p. 225) developed a two-dimensional (social capital and human capital) matrix that is helpful in describing families. A third factor, physical capital, can be added to their matrix to form a three-dimensional space useful for describing children's learning environments (Figure 4). A child learning science could be described as having a niche within this environment of physical, human, and social capital; that is, an educational resource niche.

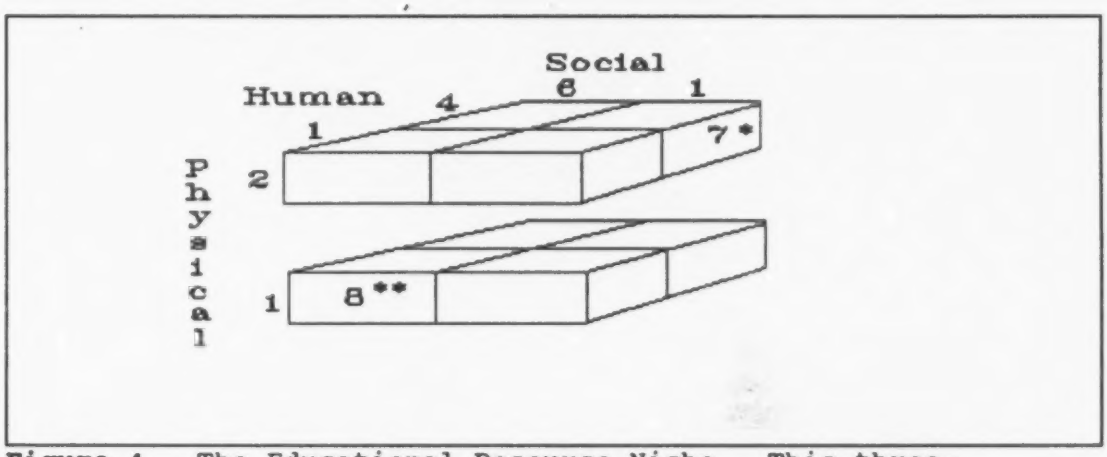

Figure 4. The Educational Resource Niche. This three-dimensional model describes a learner's niche in the environment of physical, human, and social capital. Absence of capital = 1; presence of capital = 2, 4, or 6.

A learner's niche in this environment of capital might be used to predict his or her science academic achievement. If it is postulated that there is a hierarchy of importance from social capital down to human capital down to physical capital with respect to effect on academic achievement, then Figure 4 and the findings of this study might be used to explain the apparent high science achievement, and academic achievement in general, of the home educated. Figure 4 shows that numerical values might be assigned to the presence or absence of the three hierarchically arranged types of capital. For example, the presence of social capital would be denoted by a 6 and the absence thereof by a 1, while the presence of human capital would be worth a 4 and the absence thereof a 1. Now the effects of the different types of capital might be assumed to be additive. For example, a home school family in which there is social capital (value = 6) but a lack of human capital (value = 1) and physical capital (value = 1) would still be expected to perform better (total capital = 8) than a conventional school student who experiences physical capital (value = 2) and human capital (value = 4) but a lack of social capital (value = 1) (total capital = 7). Social capital, or strong relations between parents and children, might explain the positive relationship between home schooling and students' positive attitudes toward doing laboratory science. This three-dimensional model might help explain why home school students could

achieve well even if their parents are not professionally trained teachers, have relatively low levels of income, and lack resources at home such as computers and sophisticated laboratory equipment.

The preceding model is speculative and needs further exploration. It could be used in further research to generate and test hypotheses regarding the home educated (and others) and their performance in science and other academic and affective areas of development.

In general and as expected, attitude toward behavior and subjective norm predicted a significant amount of variance in intention for both laboratory and non-laboratory behaviors. However, the amount of variance explained in this study was not as high as in other investigations using the theory of reasoned action (e.g., Bowman & Fishbein, 1978; Hom & Hulin, 1981; Koballa, 1986, 1988; Lin, 1987; Stead, 1985). It is pertinent to note that no research other than this has employed the theory of reasoned action to study the intentions of children as young as those in this study (i.e., grades 3 to 8). Further research might investigate whether limitations to the theory are peculiar to its application to children.

Consistent with the majority of other research that has employed the theory of reasoned action, attitude toward behavior had a greater relative weight than subjective norm in terms of predicting behavioral intention for both laboratory and non-laboratory. This suggests that (for the types of subjects and behaviors herein described) future experimental research should focus on attitude toward behavior in attempts to change the beliefs, attitudes, intention, and behavior of science learners.

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TEACHING FOR THE NEW AGE: A STUDY OF NEW AGE FAMILIES WHO EDUCATE THEIR CHILDREN AT HOME

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Research has consistently suggested that parents who teach their children at home are not a monolithic group, but a diverse and multi-faceted group who establish home schools for a variety of reasons. For instance, Gustavson (1981) suggests socio-relational factors, such as a concern for the moral health of children, character development, and a desire for closer parent-child relationships, guide the decision of many parents to home school. Linden (1983) reports the decision to home teach is related to the humanistic values disseminated in public schools, the lack of religious freedom, the teaching of evolutionary theory, and the prevalence of drugs and alcohol. Mayberry (1988), Van Galen (1986), and Wartes (1987) identify a variety of reasons orienting parents toward establishing home schools including: (a) a desire to provide their children with a religious education, (b) to develop programs that meet their children's special academic needs, (c) better prepare their children academically, (d) provide their children with a safe and nurturing learning environment, and (e) offer their children instruction in the philosophical belief systems that orient their lives.

Van Galen (1986) provides an analytical framework from which researchers can begin to make sense of this diverse group of parents. She suggests that parents are oriented to home schooling for either ideological or pedagogical reasons; pedagogical home school parents are concerned primarily with the social and academic environments within public schools, while ideological home school parents are clearly opposed to the content of the public school curriculum. Although important differences among parents in each category exist, recent studies have supported this fundamental distinction (Mayberry, 1989; Mayberry & Knowles, 1989).

The largest category of ideologically-oriented home school parents are, as one would expect, motivated by religious beliefs (Gustavsen, 1981; Mayberry, 1988). Not only have a number of studies provided in-depth descriptions of this group (Bates, 1987; Mayberry, 1988; Van Galen, 1986) but most journalistic portrayals of home schooling are written explicitly from accounts given by religious home school parents. These studies suggest religious home school parents are primarily concerned with what they perceive as a family right, rather than a state right, to take charge of the education of their children. They believe it is their duty to instill particular religious beliefs and values in their children. Furthermore, they oppose the secular orientation of public education and clearly state their dislike of secular humanism, values clarification, the teaching of evolution, and the anti-religious atmosphere of public schools. Finally, religious home school parents believe they should organize and control their children's education and advocate a curriculum which includes biblical training and the teaching of religious history.

This article, however, focuses on another group of parents oriented toward home schooling for ideological reasons--New Age parents. This group has received virtually no attention by social researchers. The article begins to fill the gap by discussing the results of a statewide study conducted in Oregon during 1987-1988 that yielded both quantitative and qualitative data on parents who are involved in the New Age movement (see Mayberry, 1988). Although New Age parents represented only 2 percent of the home school parents studied, there is reason to believe they make up a much larger share of the home school population. Several home school association leaders and other representatives of New Age groups claim there are many such families who, because they are suspicious of social research and tend to be either nomadic or residing in areas that are extremely isolated, often remain anonymous.

The Oregon study located eight families and supplied ample data to produce an exploratory case study of New Age parents who teach their children at home.

This article explores the lives and beliefs of New Age parents who have established home schools. Specifically, it will examine their occupational, political, religious, and educational attitudes and characteristics. The discussion will consider how these characteristics and attitudes are tightly interwoven with the primary philosophical foundations of New Age thought.

Occupational Characteristics

Two interesting findings emerge when we examine the occupational characteristics of New Age home school parents. First, New Age fathers are likely to be self-employed in craft occupations characterized by autonomy, personal control, and flexibility (e.g., musician, photographer, organic agriculturist, mushroom farmer, musical instrument builder). At first this seems surprising given the high educational level of New Age folks (Levine, 1989). When we consider the philosophical message of the New Age lifestyle, however, their choice of craft occupations and self-employment makes sense. The New Age assessment of society targets centralized power and hierarchical social organization as the source of many human ills. The remedy, argue advocates of New Age thinking, lies in the ability of people to heal humanity's alienation by returning to decentralized power structures and what they perceive to be egalitarian social organizations (Ferguson, 1980). With these visions underlying the beliefs and practices of members in the New Age movement their choice of craft occupations and self-employment are understandable.

Second, even though the large majority of mothers who home school are not in the labor force and list their occupation as housewife or homemaker (Mayberry, 1988; Wartes, 1987), the majority of New Age mothers home school in addition to pursuing a career. The tenets of New Age thought can, once again, help account for this distinction. Those committed to the New Age movement often speak of personal growth and transformation, and reaching one's human potential as important practices to be pursued. The New Age women in this study have chosen occupations oriented toward those ideals (e.g., free-lance writer, artist, craftswoman, holistic healer). These occupations provide mothers with not only the flexibility to balance their time between work and home teaching, but also the occupational contexts other than mothering that facilitate personal growth and development.

Political Characteristics

Politics is especially salient for New Age home school parents. New Age advocates typically urge adherents to involve themselves politically in groups and agencies that support social change for the New Age. The "correct" activism is often seen as combining the family's pedagogical work with involvement in moral, cultural, and political crusades (Miller, 1989). New Age home school parents often work toward this goal by not only encouraging their children to become involved in New Age political organizations and programs but also integrating the activities of these organizations into the home-based curriculum. Take for instance this mother's description of her children's interests:

> Our interests [the parent's] have actually become part of the curriculum. Our children have spontaneously taken part in Peace House projects... participation in an anti-war play sponsored by the Educators for Social Responsibility... written letters to politicians for peace... and protested the treatment of Native Americans at Big Mountain.

The majority of New Age home school parents consider politics an important factor in their decision to establish a home school. Their political alliances, however, are outside traditional party lines; that is, New Age parents exhibit a high degree of political independence from mainline political and social institutions. For instance, they commonly identify themselves as "independents" and

characterize their political viewpoint as "liberal." Moreover, New Age home school parents have little confidence in major social institutions. Major companies, the executive branch of government, organized religion, and the military are among the institutions in which New Age parents express little faith.

The message New Age parents convey to their children through the home school curriculum reflects their political autonomy and, perhaps more importantly, their frustration with the values embodied in mainstream social institutions. Two New Age mothers describe the values and beliefs they want to raise their children with like this:

> [Home schooling] allows us to actualize our full potentialities as much as possible. It also allows us to address social consciousness, quality of life for everyone, ecological concerns, the seeming decline of individual, personally motivated values and ethics, the economy, and the potential for war.
>
> Our child wanted to share our home values; vegetarianism, living lightly on the earth, farming, a labor intensive vs. energy consumptive lifestyle, and non-materialism.

These comments characterize New Age thought which perceives contemporary political parties, their platforms, and social institutions incapable of ushering in a new social order based upon decentralized organizations whose policies are in balance with nature (Burrows, 1987; Ferguson, 1980). For instance, New Age adherents generally support ecology and grassroots democracy but oppose nuclear weapons, military buildup, and centralized power structures such as the executive branch, major banks, and large corporations. Contemporary social institutions are typically seen by New Age supporters as the producers of a materialistic, competitive, and bureaucratic culture that denies humanity the individual imagination and creativity needed to create a new social world (Galyean, 1989). Home schooling, for some New Age parents, allows them to actively link their quest for social transformation with their everyday practices. As one mother explained, "I want my children to know they have the power to change the world and make it a healthier place to live....I know of no better way to teach this than by taking responsibility on myself."

Religious Characteristics

Religion, unlike politics, is not a strong influence in the lives of New Age home school parents. Those affiliated with the movement clearly point out the importance of distinguishing religion from spirituality. Adherents argue that spirituality implies understanding the 'divine essence' as humanity's true, higher or real self rather than something external to humanity. Organized religion, on the other hand, is seen as the formal expression of spirituality that has been codified and bureaucratized. Organized religion is therefore perceived as one of many institutionalized structures that distract humans from developing their spiritual core. The elevation of the 'spiritual' above the 'religious' is also congruent with the movement's holistic world view that values equally the psychological, emotional, hand spiritual realms. The information we have on the New Age movement is congruent with the findings of this study. New Age parents give low ratings to the importance of religion in their home school decision and daily lives, the effect of the Bible on their everyday decisions, and church attendance. Moreover, they have little confidence in traditional forms of organized religions such as Protestantism and Catholicism. New Age parents, however, display a high degree of spiritual commitment; they commonly mention their affiliation and daily participation in organizations such as 'New Age', 'Pantheist', 'Sufi', 'Hindu', 'Buddhist', 'Bahai', and 'Urantia Book.' Moreover, some form of spiritual activity is usually incorporated into their weekly schedule. They commonly mention daily group exercises and meditation, Sufi dancing, Native American Sweat Lodges, solstice and full moon celebrations, and a variety of New Age ritual celebrations as activities in which they frequently participate.

The preservation and transmission of the New Age world view is an important aspect of the home school experience. For some parents, home schooling allows them to teach their children the value of "living an aware and spiritually integrated life, with love, reverence, and respect for all life." Others stress the importance of designing specific educational programs for their children reflecting the spiritual beliefs upon which New Age philosophy is based. Consider the following comments:

> We teach reincarnation, the Law of Karma, and the interrelatedness and interdependency of all life forms upon each other to insure mutual quality survival, including that of this planet earth.
>
> I wish [to teach] acceptance of intuitive thought and less rational learning...the belief systems of oneness with nature, Native American traditional beliefs, Sufism, and Buddhism.

New Age adherents see the crisis of modern culture as essentially the loss of understanding the connectedness of psychological, emotional, and spiritual realms. The ability to understand the interrelatedness of these elements is the task of the New Age; a task, New Age home school parents argue, that is accomplished best by providing children with educational experiences that lay the foundation necessary for the ascent into the New Age.

Educational Orientations

Providing young people with a holistic education and introducing them to the values and beliefs of the New Age is integral to accomplishing the cultural changes advocated by New Age members. New Age parents believe education should consider all interrelated aspects of the human experience--emotional, spiritual, intuitive, creative, aesthetic, and rational. What better way to achieve this, many New Age parents explain, than by deliberately building an educational environment which promotes the development of the whole child, including the child's spiritual essence. Education's "chief functions," they claim, are to "facilitate the unfolding of the soul" and "develop the attitude needed to understand the interconnectedness of one's personality and the soul."

New Age home school parents typically see public schools as bureaucratic institutions that ignore the holistic nature of humanity. Many feel schools should be "centers of learning" with "no compulsory attendance" and "open for all in the community to use." Others feel public schools "do not understand the education process at all" and express an overwhelming lack of confidence in public schools. Their commitment to home-based education, on the other hand, is exhibited by their strong support for an educational voucher that would financially supplement the cost of running a home school. Moreover, the home school is the preferred choice of these New Age parents even if they were supplied with a voucher enabling them to send their child to any number of public or private schools.

New Age parents are not dissatisfied with the humanistic-oriented curriculum of public schools. For instance, they favor teaching evolutionary theory and sex education and oppose teaching creationism. What they do want as part of their children's educational experience, however, is "an educational environment that tells children they are beautiful spirits," and a curriculum emphasizing an "international consciousness" which perceives all humans as part of a "global community." Their decision to home school, therefore, is often related more to what public schools are not teaching rather than to what they are.

The education of children is an important link in the New Age movement's perception of their ability to succeed in creating new cultural patterns. New Age parents see the importance of raising children with the ideologies of the New Age as a first step toward "solving society's ills." By controlling their children's education, New Age parents not only believe they are "allowing the being inherent in every child and person to unfold" but have found a way to preserve and transmit to their children the ideologies of the New Age.

Conclusion

The home school activity of New Age families must be understood within the context of New Age philosophy. These parents are similar to other home school parents in their desire to provide educational environments and standards that facilitate children's individuality and academic achievement. But, New Age home school parents maintain a unique world view. This is what makes them distinct.

O'Hara roots the appeal of New Age thinking in the failure of secular science to account for the existential facts of life and its inability to provide insight into the "sacred, symbolic, ritualistic, or transcendental dimensions of experience" (1989: 371). Faced with an increasingly technologized world where technological progress and scientific knowledge seem to be leading humanity into a cultural and social malaise, New Age thinkers reject scientific materialism's explanation of human existence and provide an alternative world view that embraces, rather than rejects, human consciousness, experience, and spirituality.

The enhanced status New Age thought gives to the personal and experiential dimensions of human existence is clearly evident in the movement's primary message--personal and social transformation. New Age thought emphasizes the power of each individual to transcend the fragmented conditions of their life by resurrecting the realm of the spiritual. Personal transformation involves individual recognition and celebration of the infinite capabilities of humankind that have been left unnourished by rational Western systems of thought. In turn, personal transformation creates the conditions necessary for social transformation. Thus, the New Age solution to the social crises of our times is located in the individual's ability to develop a consciousness able to perceive and construct new realities.

The home school activity of New Age parents can be understood within this context. Modern social institutions, including public education, are often seen as embodying secular science's rationalized world view which devalues the very concepts that are the cornerstones of New Age thought--individual potential, spirituality, and holism. Home schooling provides the opportunity for some New Age adherents to provide their children educational experiences which nurture these ideals. In this sense, home schooling becomes the bridge between personal and social transformation.

With all of its good intentions, however, New Age thought in general and teaching for the New Age specifically may fail to deliver. An important commonality among those attracted to New Age thought is their loss of commitment to mainstream social institutions which are typically viewed by New Age members as forces restricting the full expression of human potential (see Bellah, et.al., 1985). The New Age solution to the problem is to nurture a new form of consciousness capable of transcending the limiting effects of modern society. In this sense the impetus behind the appeal of New Age thought--an individual's sense of alienation from and loss of commitment to modern social forms and systems of thought--becomes its source. As Hargrove points out, the New Age movement "expresses its alienation not by attempting to change the culture to prevent such effects, but by finding ways of escaping those effects through the stimulation of a certain form of consciousness" (1989:322). By teaching the pedagogy of the New Age, these home school parents may, in fact, be sustaining rather than altering the very structures of modern society they are rebelling against.

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A 57-page paper, presented by Brian D. Ray to the Department of Science, Mathematics, and Computer Science Education at Oregon State University, it carefully reviews the literature relevant to the title. It also includes sections entitled "characteristics of home schools," "possible explanations for observed home school outcomes," and "research potentials." The copyrighted paper is available from the editor of HSR for U.S. $8.00 (and $5.00 for additional copies). It is also available through Educational Resources Information Center, ERIC Reproduction Service No. ED 278 489.

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New Book by Lieberman

"To some, therefore, 'privatization' consists of load shedding -- government shedding of support as well as operation of-public services" (p. 272). "Another group likely to support load shedding consists of parents who educate their children at home" (p. 273). Dr. Lieberman is a consultant to federal, state, and local education agencies and a nationally recognized analyst of educational issues. Among other things, Myron Lieberman devotes a chapter to load shedding and home education in his new book: Privatization and educational choice (1989), St. Martin's Press, 175 Fifth Avenue, New York, NY 10010.

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